SHARP SERVICE MANUAL

COLOR TELEVISION

Chassis No. GB-3U'

MODEL 35UF6

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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ELECTRICAL SPECIFICATIONS

POWER INPUT ..... 120V AC, 60 Hz
POWER RATING 170W
PICTURE SIZE ..... 3,794 cm^2 (588.07sq inch)
CONVERGENCE ..... Magnetic
SWEEP DEFLECTION ..... Magnetic
FOCUS ..... Hi-Bi-Potential Electrostatic
INTERMEDIATE FREQUENCIES
  Picture IF Carrier Frequency ..... 45.75 MHz
  Sound IF Carrier Frequency ..... 41.25 MHz
  Color Sub-Carrier Frequency ..... 42.17 MHz (Nominal)
AUDIO POWER
  OUTPUT RATING ..... 5.0W + 5.0W (at 10% distortion and Dual CH Operate)
SPEAKER
  SIZE ..... 12 x 6 cm oval (2 pcs.)
  VOICE COIL IMPEDANCE ..... 8 ohm at 400 Hz
ANTENNA INPUT IMPEDANCE
  VHF/UHF ..... 75 ohm Unbalanced
TUNING RANGES
  VHF-Channels ..... 2 thru 13
  UHF-Channels ..... 14 thru 69
  CATV Channels ..... 1 thru 125 (EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

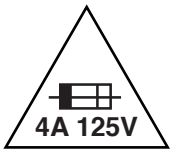
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A-125V FUSE.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

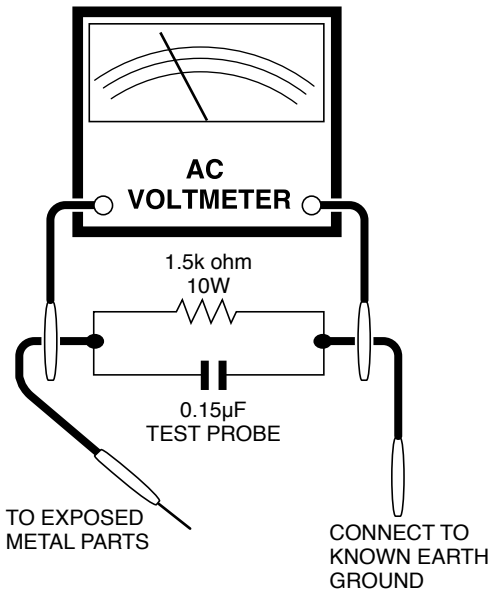
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

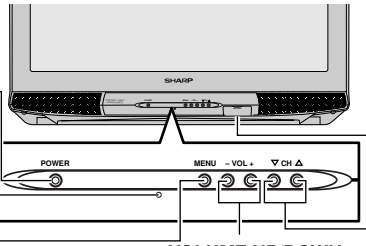
Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

LOCATION OF USER'S CONTROL

■ Location of Controls

Front Panel



POWER
Press → On.
Press again → Off.

SENSOR AREA FOR REMOTE CONTROL

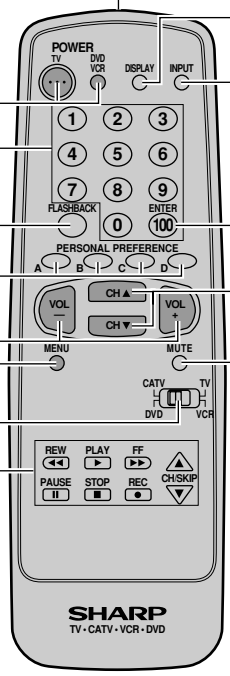
MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

VIDEO/AUDIO IN 2 TERMINALS (INSIDE DOOR)

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Press both at the same time to access the MAIN MENU screen.

Basic Remote Control Functions



Infrared Transmitter Window

POWER
Press → On.
Press again → Off.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

PERSONAL PREFERENCE
With the Personal Preference buttons, you can program your favorite programs by using the 4 categories A, B, C and D. The channels can be accessed quickly by using these buttons.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
• In menu mode, changes or selects the TV adjustments.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

CATV/DVD-TV/VCR MODE SELECT SWITCH
In TV/VCR position, sends power and channel select commands (Channel up/down and Random Access buttons) to the TV and VCR control.
In CATV/DVD position, sends power and channel select commands to a cable TV converter and DVD control.

DVD/VCR CONTROL

DISPLAY
Press → Displays receiving channel for four seconds.
Press again → Removes display.
• Temporarily displays receiving channel when in Closed Caption mode.

INPUT
Press → Switch to external video INPUT 1 mode.
Press 2 times → Switch to external video INPUT 2 mode.
Press 3 times → Switch to external video INPUT 3 mode or COMPONENT mode.
Press 4 times → Switch back to the original TV mode.

ENTER
Used in some instances where a Cable Converter Box requires an "enter" command after selecting channels, when using the REMOTE KEYPAD button.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Moves the "●" mark of the MENU screens.

MUTE
Press → Mutes sound.
Press again → Restores sound.
• CLOSED CAPTION appears when sound is muted.

Note:

- The above shaded buttons on the Remote Control glow in the dark. To use the glow-in-the-dark display on the remote control, place it under a fluorescent light or other lighting.
- The phosphorescent material contains no radioactive or toxic material, so it is safe to use.
- The degree of illumination will vary depending on the strength of lighting used.
- The degree of illumination will decrease with time and depending on the temperature.
- The time needed to charge the phosphorescent display will vary depending on the surrounding lighting.
- Sunlight and fluorescent lighting are the most effective when charging the display.

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to TP651 (Pin 3) and make sure that the voltmeter reads 13.85 ±0.6V DC.
5. Apply external 17.3V DC at TP651 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and plug the AC cord power on. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "V11" and Bus data "01" (Y-mute on, CRT Cut Off).
4. The voltage should be below 35.5kV (at zero beam). If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "V01" to "P08". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or Vol-down button to adjust the data number.

To enter the service mode and exit service mode.

To enter the service mode manually just press and hold the Vol-down and Ch-up buttons at the same time, plug the AC cord into a wall socket.
Now the TV set is switched on and enters the service mode.
To exit the service mode, turn the television off by pressing the power button.

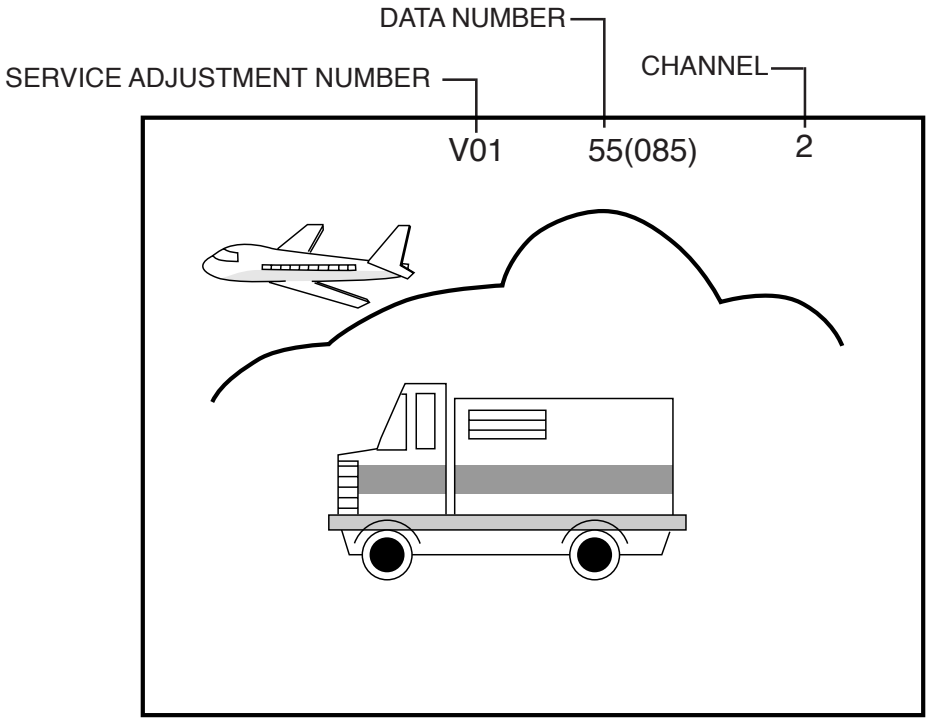


Figure A.

A. VCJ IC ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
V01	PICTURE	0-15 (00h-0Fh)	8 (08h)		
V02	TINT	0-127 (00h-7Fh)	66 (42h)		
V03	COLOR	0-127 (00h-7Fh)	56 (38h)		
V05	BRIGHT	0-127 (00h-7Fh)	64 (40h)		
V06	R CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V07	G CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V08	B CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V09	G/R DRIVE	0-127 (00h-7Fh)	64 (40h)		
V10	B DRIVE	0-127 (00h-7Fh)	64 (40h)		
V11	Y-MUTE/V-STOP	0-2	0 (00h)	Y-Mute / Holizontal "—"	00
V12	SHARP	0-63 (00h-3Fh)	50 (32h)		32
V13	DC RESTORATION	0-3 (00h-03h)	2 (02h)		02
V14	BLACK STRETCH	0-3 (00h-03h)	2 (02h)		02
V15	ABL START POINT	0-3 (00h-03h)	3 (03h)		03
V16	ABL GAIN	0-3 (00h-03h)	2 (02h)		02
V17	γ POINT	0-3 (00h-03h)	0 (00h)		00
V19	ENERGY SAVE	0-63 (00h-3Fh)	63 (3Fh)	Offset	3F
V24	LOW-G	0-255 (00h-FFh)	12 (0Ch)	Color Temp.	F4
V25	LOW-B	0-255 (00h-FFh)	241 (F1h)	Color Temp.	E6
V26	ML-G	0-255 (00h-FFh)	0 (00h)	Color Temp.	FD
V27	ML-B	0-255 (00h-FFh)	247 (F7h)	Color Temp.	F8
V28	HIGH-G	0-255 (00h-FFh)	2 (02h)	Color Temp.	01
V29	HIGH-B	0-255 (00h-FFh)	8 (08h)	Color Temp.	06
V30	WPL	0-1	1 (01h)		01
V31	RGB CONTRAST	0-63 (00h-3Fh)	59 (3Bh)		3B
V34	VSM GAIN	0-3 (00h-03h)	1 (01h)		01
V36	BPF/TOF-INPUT	0-1	0 (00h)	External Input	00
V37	CORING	0-1	0 (00h)		00
V38	VSM PHASE	0-1	0 (00h)		00
V39	COLOR γ	0-1	0 (00h)		00
V40	SHARP-INPUT	0-63 (00h-3Fh)	44 (2Ch)	External Input	2C
V41	TINT-INPUT	0-127 (00h-7Fh)	62 (3Eh)	External Input	3E
V42	PICTURE-COMPONENT	0-15 (00h-0Fh)	6 (06h)	Component Input	
V43	TINT-COMPONENT	0-127 (00h-7Fh)	62 (3Eh)	Component Input	3E
V44	COLOR-COMPONENT	0-127 (00h-7Fh)	72 (48h)	Component Input	48
V45	BRIGHT-COMPONENT	0-127 (00h-7Fh)	84 (54h)	Component Input	
V46	R CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V47	G CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V48	B CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V49	G/R DRIVE-COMPONENT	0-127 (00h-7Fh)	64 (40h)	Component Input	
V50	B DRIVE-COMPONENT	0-127 (00h-7Fh)	64 (40h)	Component Input	
V51	SHARP-COMPONENT	0-63 (00h-3Fh)	44 (2Ch)	Component Input	2C
V52	TINT-S	0-127 (00h-7Fh)	62 (3Eh)	Component Input	3E
V53	C-TRAP	0-1 (00h-01h)	0 (00h)		00
V59	AUTO FRESH	0-1 (00h-01h)	0 (00h)		00
V60	SHARP P F	0-1 (00h-01h)	1 (01h)		01
V61	CD MATRIX	0-3 (00h-03h)	2 (02h)		02
V62	B-Y ATT	0-1 (00h-01h)	0 (00h)		00
V63	R-Y ATT	0-1 (00h-01h)	0 (00h)		00
V64	CD MATRIX COMPONENT	0-3 (00h-03h)	0 (00h)	Component Input	00
V65	B-Y ATT-COMPONENT	0-1 (00h-01h)	0 (00h)	Component Input	00
V66	R-Y ATT-COMPONENT	0-1 (00h-01h)	0 (00h)	Component Input	00
V67	BUZZ	0-1 (00h-01h)	1 (01h)		01
V68	RGB ABCL	0-1 (00h-01h)	1 (01h)		01
R01	RF-AGC	0-63 (00h-3Fh)	36 (24h)		
R03	RF-AGC REF	0-255 (00h-FFh)	170 (AAh)	Standard value for the self-adjustment	AA
D01	V POSITION	0-7 (00h-07h)	0 (00h)		00
D02	H POSITION	0-31 (00h-1Fh)	15 (0Fh)		
D03	V SIZE	0-127 (00h-7Fh)	89 (59h)		
D04	H SIZE	0-63 (00h-3Fh)	36 (24h)		
D05	V-LINEARITY	0-15 (00h-0Fh)	8 (08h)		
D06	V-S CORRECTION	0-15 (00h-0Fh)	12 (0Dh)		0D
D07	EW PARABOLA	0-63 (00h-3Fh)	43 (2Bh)		
D08	EW TRAPEZIUM	0-63 (00h-3Fh)	36 (24h)		
D10	AFC GAIN	0-3 (00h-03h)	2 (02h)		02
D11	V EHT	0-7 (00h-07h)	6 (06h)		06
D12	H EHT	0-7 (00h-07h)	6 (06h)		06
D13	EW CORNER	0-31 (00h-1Fh)	8(08h)		0A
D14	EW CORNER BOTTOM	19-81 (13h-51h)	50 (32h)	Offset toward D13.	32
D15	NOISE DET LEVEL	0-3 (00h-03h)	0 (00h)		00
D18	V CENTERING	0-63 (00-3Fh)	36 (24h)		
D19	V-AGC	0-1 (00h-01h)	0 (00h)		00

B. SPECIAL SETTING

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
EX1	FAO VOLUME	0-50 (00h-32h)	36 (24h)		24
EX2	CC-POSITION	0-127 (00h-7Fh)	27 (1Bh)		1C
EX3	INT	0-255 (00h-FFh)	122 (7Ah)	Interrupt period adjustment.	7A
EX4	A-ATT	0-127 (00h-7Fh)	90 (5Ah)		5A
EX5	TUNER data	0-3 (00h-03h)	0 (00h)		00
EX6	Think chip-Slice LEVEL	0-255 (00h-FFh)	54 (36h)		12
EX7	RLY DELAY TIME	0-255 (00h-FFh)	0 (00h)	For the power control	00
EX8	ADG ON TIME	0-255 (00h-FFh)	10 (0Ah)	For the power control	0A

C. OPTION SETTING

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
OP1	OPTION1	0-255 (00h-FFh)	245 (F5h)		B5
OP2	OPTION2	0-255 (00h-FFh)	188 (BCh)		3C
OP3	OPTION3	0-255 (00h-FFh)	15 (0Fh)		8F

D. SOUND ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
M01	INPUT LEVEL	0-15 (00h-0Fh)	7 (07h)		
M02	MTS VCO	0-63 (00h-3Fh)	38 (26h)		24
M03	FILTER	0-63 (00h-3Fh)	36 (24h)		22
M04	WIDEBAND	0-63 (00h-3Fh)	28 (1Ch)		
M05	SPECTRAL	0-63 (00h-3Fh)	23 (17h)		

Holding down both the VOL-up and CH-up buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201 and MTS level (M01).
IC2101	X		Holding down both the VOL-up and CH-up buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101 Then perform a complete adjustment.
CRT	X		Adjust items related to picture tube only.
IC3001	X		Adjust items related to MTS only (M01~M20).

SERVICE ADJUSTMENT

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "R01".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.
   Note 1 : You will have to come out of the service mode to select another channel.
   Note 2 : Setting the data to "00" will produce a black raster.

Screen Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "V03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
3. Select the service adjustment "V11" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
4. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
5. Adjust the service adjustments "V06" red, "V07" green and "V08" blue to obtain a good grey scale with normal whites at low brightness level.
6. Select the service adjustment "V11" and reset data to "00". Select the service adjustment "V03" and reset data to obtain normal color level.
7. For component input, the data value of "V46" red, "V47" green and "V48" blue is adjusted to follow the data value of "V06", "V07" and "V08" respectively.
8. Reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set to "00" (minimum color)(Record original data code under adjustment "V03" before changing). "V03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "V09" and "V10" until a good grey scale with normal whites is obtained. (RF Input)
4. For component input, the data value of "V49" and "V50" is adjusted to follow the data value of "V09" and "V10" respectively.
5. Select the service adjustment "V03" and reset data to obtain normal color level.

Sub-picture and Sub-Bright Adjustments

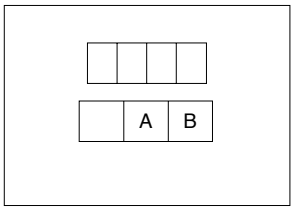
1. Receive the window pattern signal.

• RF INPUT (TU51)

2. Get into service adjustment data "V01" and "V05" and set the luminance as shown in figure "A" and "B" as below respectively.

• COMPONENT INPUT

3. Get in service adjustment data "V42" and "V45" and set the luminance as shown in figure "A" and "B" as below respectively.



LUMINESCENCE CONFIRMATION

A: 80±10cd/m^2

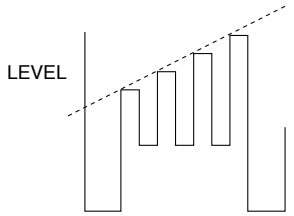
B: 1.1±0.5cd/m^2

Sub-Tint Adjustment

1. Receive the half color bar signal.

• RF INPUT (TU51)

2. Get into Y-Mute by R/C, or by setting the "V11" bus data to "01".
3. Vary the "V02" bus data until the waveform becomes as stated below.



B-AMP Base waveform in step (TP47B)

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .

• RF INPUT (TU51)

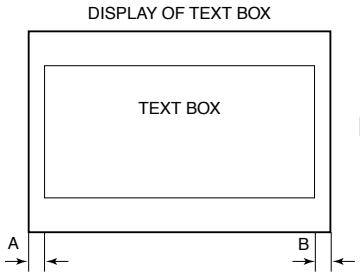
3. Enter the service mode and select service adjustment "V03".
4. Adjust "V03" data value to obtain a normal color level.

Focus Adjustment

1. Receive a good local channel.
2. Adjust the FOCUS VR of the flyback transformer to make the image as fine as possible.

C. C Display Position Adjustment

1. Receive the lion head pattern signal.
2. Select "EX2" to display the text box.
3. Adjust the "EX2" bus data to let the text box displayed in the center.



l A-B l / 2

SPEC INSPECTION:l A-B l / 2 ≦ 5mm

Vertical-Size and Linearity Adjustments

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

2. Enter the service mode and select the service adjustment "D03" for V-size.
3. Adjust the "D03" bus data to get the proper V-size.
4. For V-linearity adjustment, select data bus "D05" and adjust to get the proper vertical linearity.
5. Input data of "D22" to mines 38 step from "D03" data. (V-SIZE)
6. Input data of "D24" same as "D05" data. (V-LIN)

Note: Aging for 10 min before adjustment. After the adjustment of V-center and V-size, re-adjustment for this V-line.

Vertical Phase Adjustment

(SCREEN FORMAT 4:3)

1. Enter the service mode and input data of “00h” on "D01".
2. Adjust "D18" data value so that picture is centered.
3. Input data of "00h" on "D20".
4. Input data of "D34" same as "D18" data.

Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D02".
3. Adjust "D02" data value so that picture is centered.
4. Input data of "D21" same as "D02" data.

Horizontal-Size Adjustment

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

2. Enter the service mode and select the service adjustment "D04" for H-size.
3. Adjust the "D04" bus data to get the proper H-size.
4. Input data of "D23" same as "D04" data.

EW-Parabola

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

2. Enter the service mode and select the service adjustment "D07" for EW parabola.
3. Adjust the "D07" bus data to get the proper vertical straight line for both left and right side.
4. Input data of "D26" to mines 16 step from "D07" data.

EW-Trapezium

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

2. Enter the service mode and select the service adjustment "D08" for EW-Trapezium.
3. Adjust the "D08" bus data to get the best position display.
4. Input data of "D27" same as "D08" data.

■ MTS ADJUSTMENT

MTS Level Adjustment

1. Set the sound volume above 1.
   Monoral signal: 400Hz, 100% modulation
2. Confirm "EX4" data is "5Ah".
3. Vary the "M01" bus data until the voltage to pin (39) of IC3001 to become the value as stated below.
   SETTING VOLTAGE
   ADJ spec : 490±10mVrms
   CHK spec: 490±20mVrms

MTS VCO Adjustment

1. Keep the unit in no-signal state.
2. Connect the frequency counter to pin (39) of IC3001.
3. Connect a capacitor (100μF, 50V) in between positive(+) side of C3005 and ground.
4. Enter the service mode and select the service adjustment "M02"
5. Adjust the data so that the frequency counter reads 62.94 ±0.75kHz.

Filter Adjustment

1. Feed the following stereo pilot signal to pin (14) of IC3001 at C3005 open.
   Stereo pilot signal: 9.4kHz, 600mVrms.
2. Enter the service mode and select the service adjustment "M03".
3. Adjust the data until "OK" appears in position on the screen. Make sure the "OK" is displayed almost at the center of the data range.

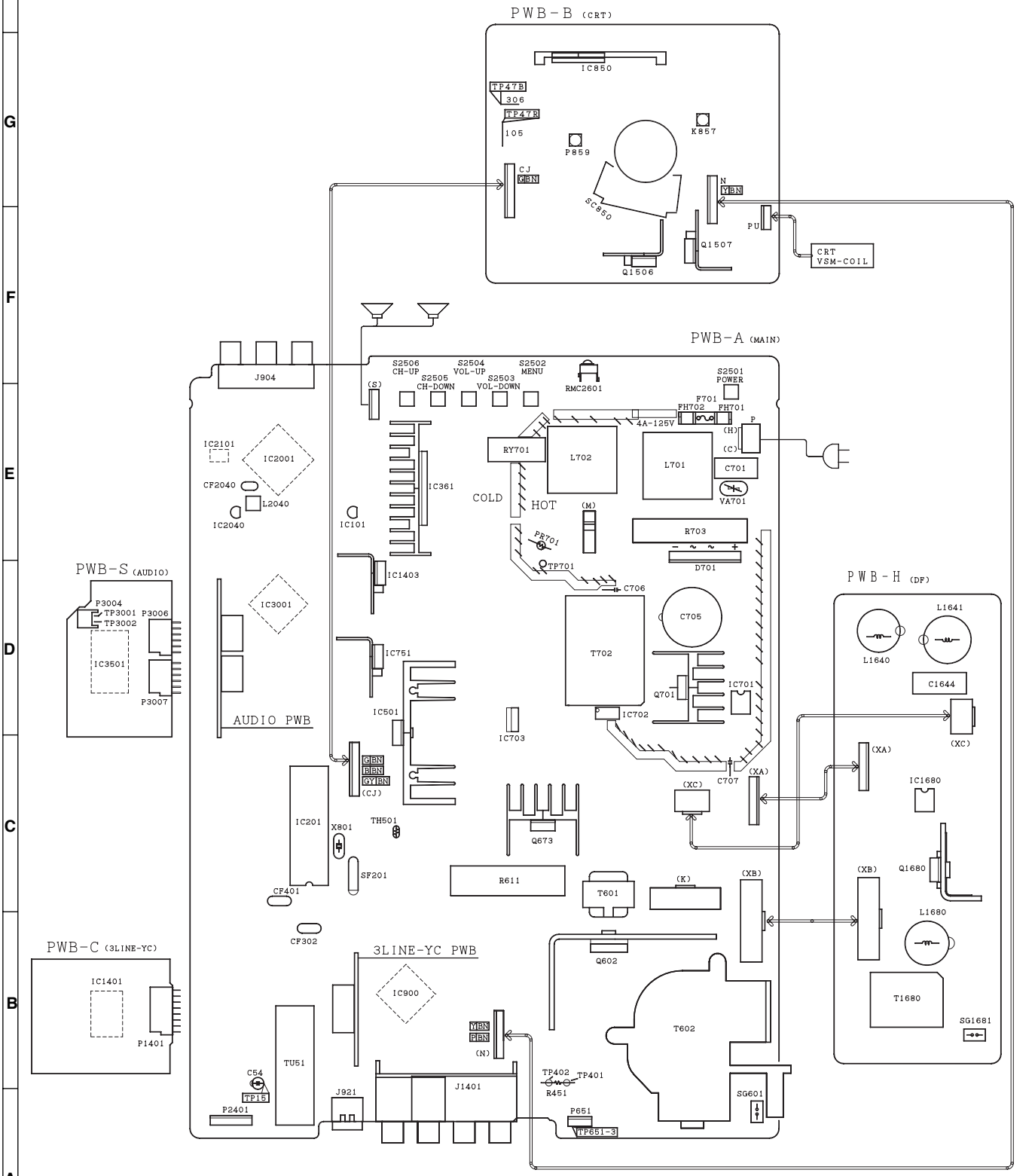
Separation Adjustment

1. Input "SIGNAL 1" and vary the "M04" bus data to get the minimun AC voltage to pin (39) of IC3001.
2. Input "SIGNAL 2" and vary the "M05" bus data to get the minimun AC voltage to pin (39) of IC3001.
   SIGNAL 1: 300Hz, 30% modulation, Lch only, NR-ON
   SIGNAL 2: 3kHz, 30% modulation, Lch only, NR-ON

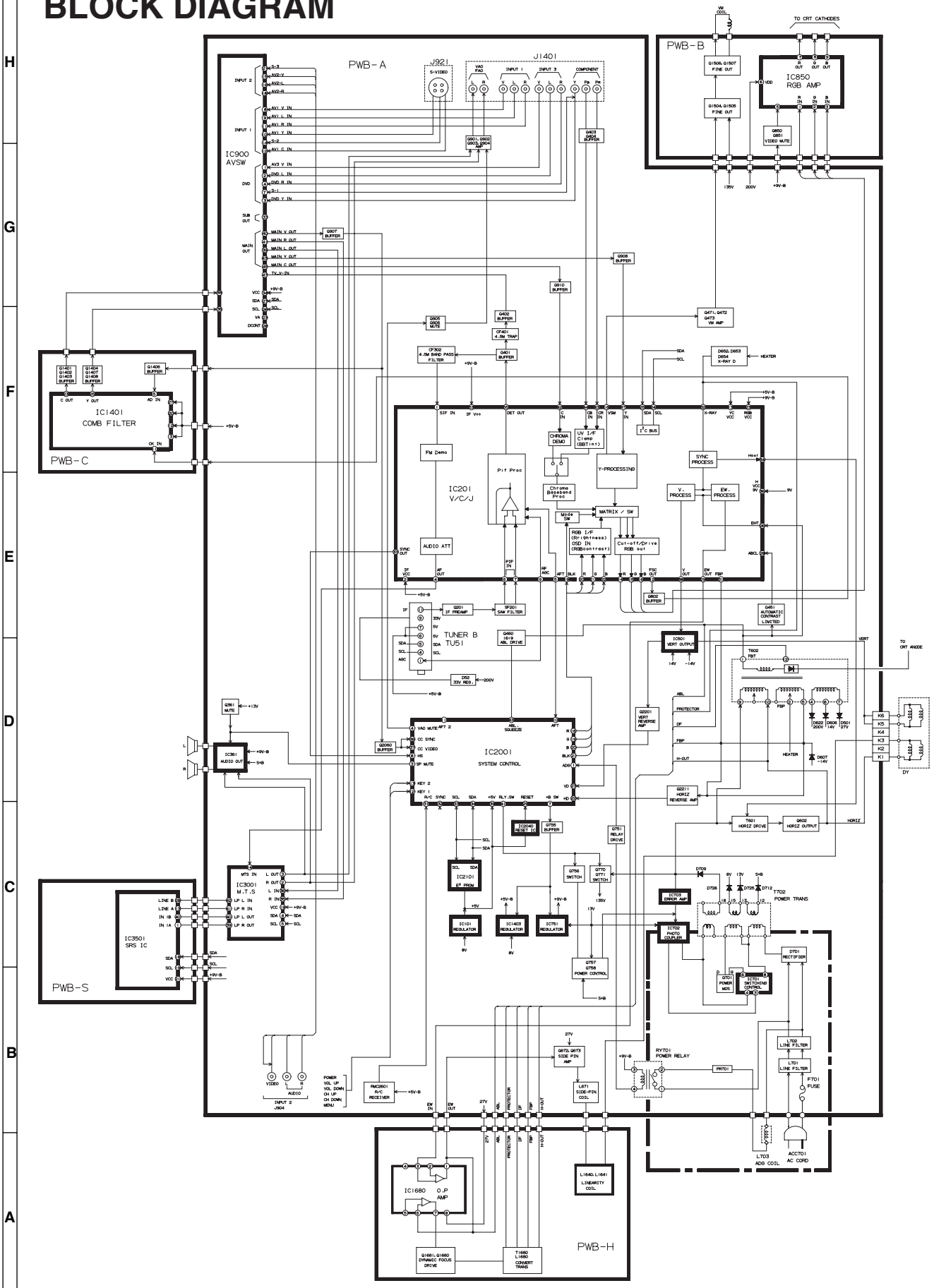
Note: SIGNAL 1 Adj. for widebando
SIGNAL 2 Adj. for spectral

Check the output of the speaker at the maximum volume as stated below.
Confirmation spec:
ADJ spec: above 25 dB
CHK spec: above 20 dB

CHASSIS LAYOUT



BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/16 watt, unless otherwise noted.*
3. *All capacitors are μ F, unless otherwise noted. (P=pF=μμF)*
4. *(G) indicates ±2% tolerance may be used.*
5. *⏚ indicates line isolated ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μ V B & W or Color signal.*

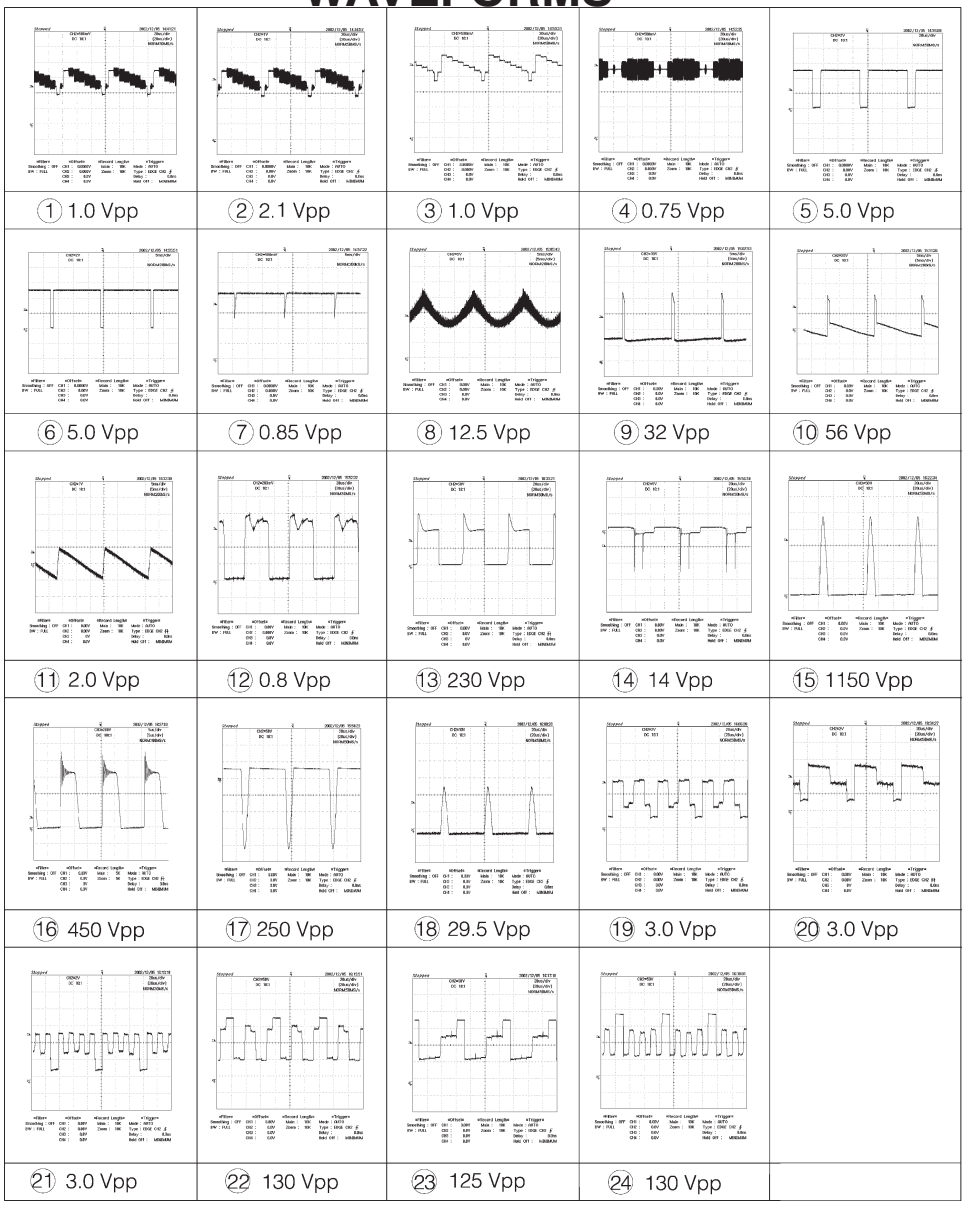
WAVEFORM MEASUREMENT CONDITIONS:

1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. *indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ *AND SHADED ( ) COMPONENTS = SAFETY RELATED PARTS.*
▲ *MARK= X-RAY RELATED PARTS.*

This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVEFORMS



① 1.0 Vpp ② 2.1 Vpp ③ 1.0 Vpp ④ 0.75 Vpp ⑤ 5.0 Vpp

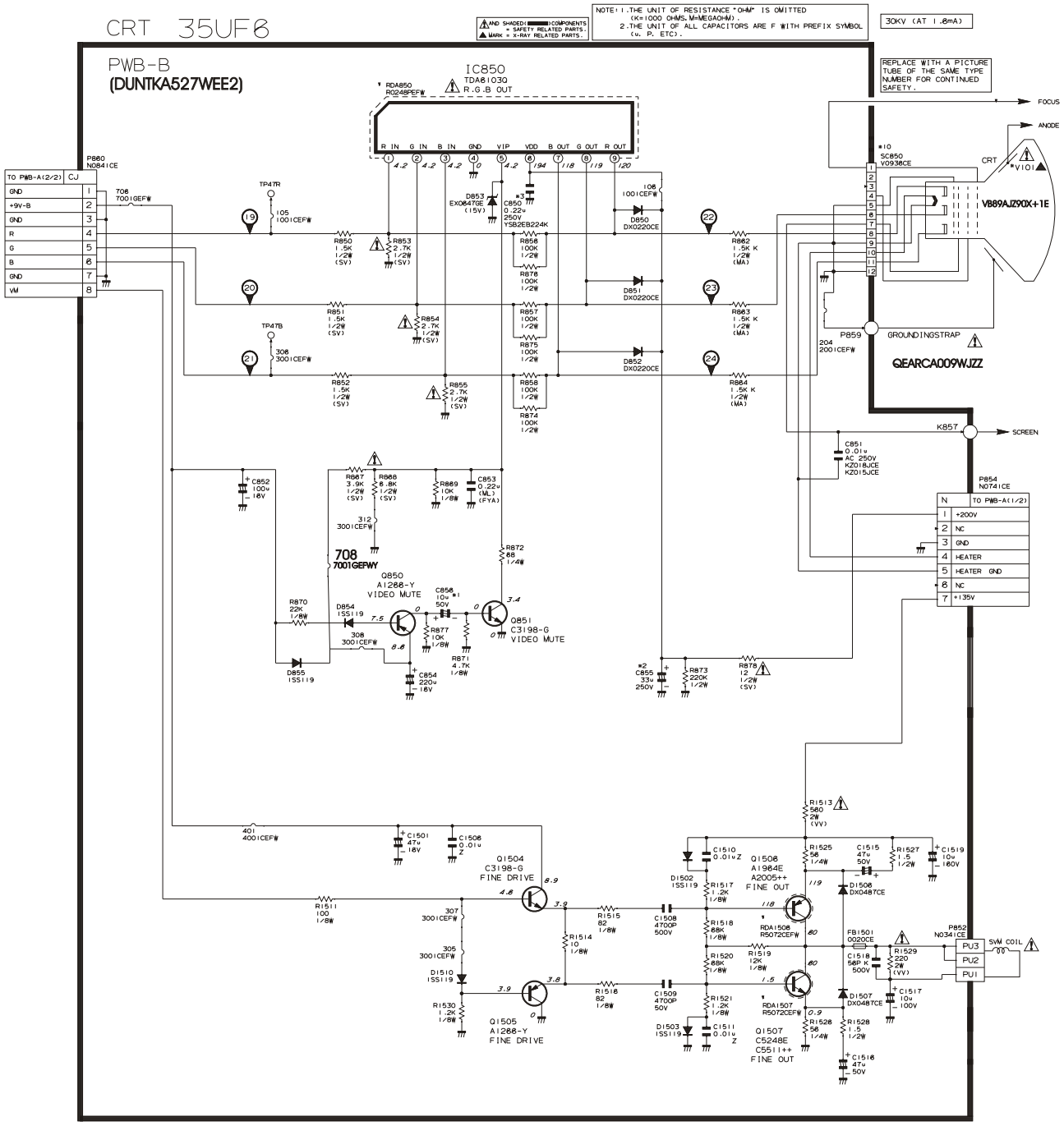
⑥ 5.0 Vpp ⑦ 0.85 Vpp ⑧ 12.5 Vpp ⑨ 32 Vpp ⑩ 56 Vpp

⑪ 2.0 Vpp ⑫ 0.8 Vpp ⑬ 230 Vpp ⑭ 14 Vpp ⑮ 1150 Vpp

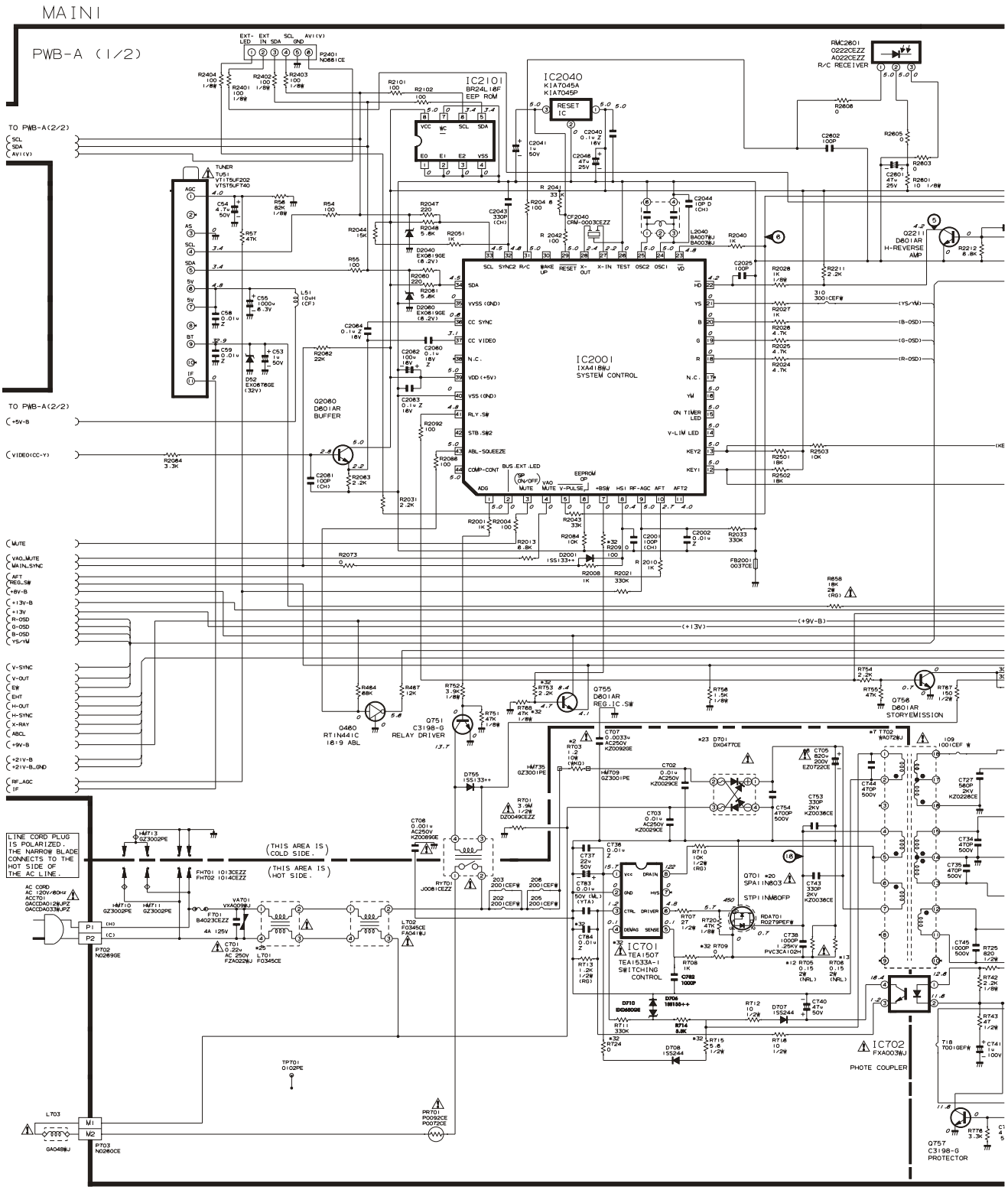
⑯ 450 Vpp ⑰ 250 Vpp ⑱ 29.5 Vpp ⑲ 3.0 Vpp ⑳ 3.0 Vpp

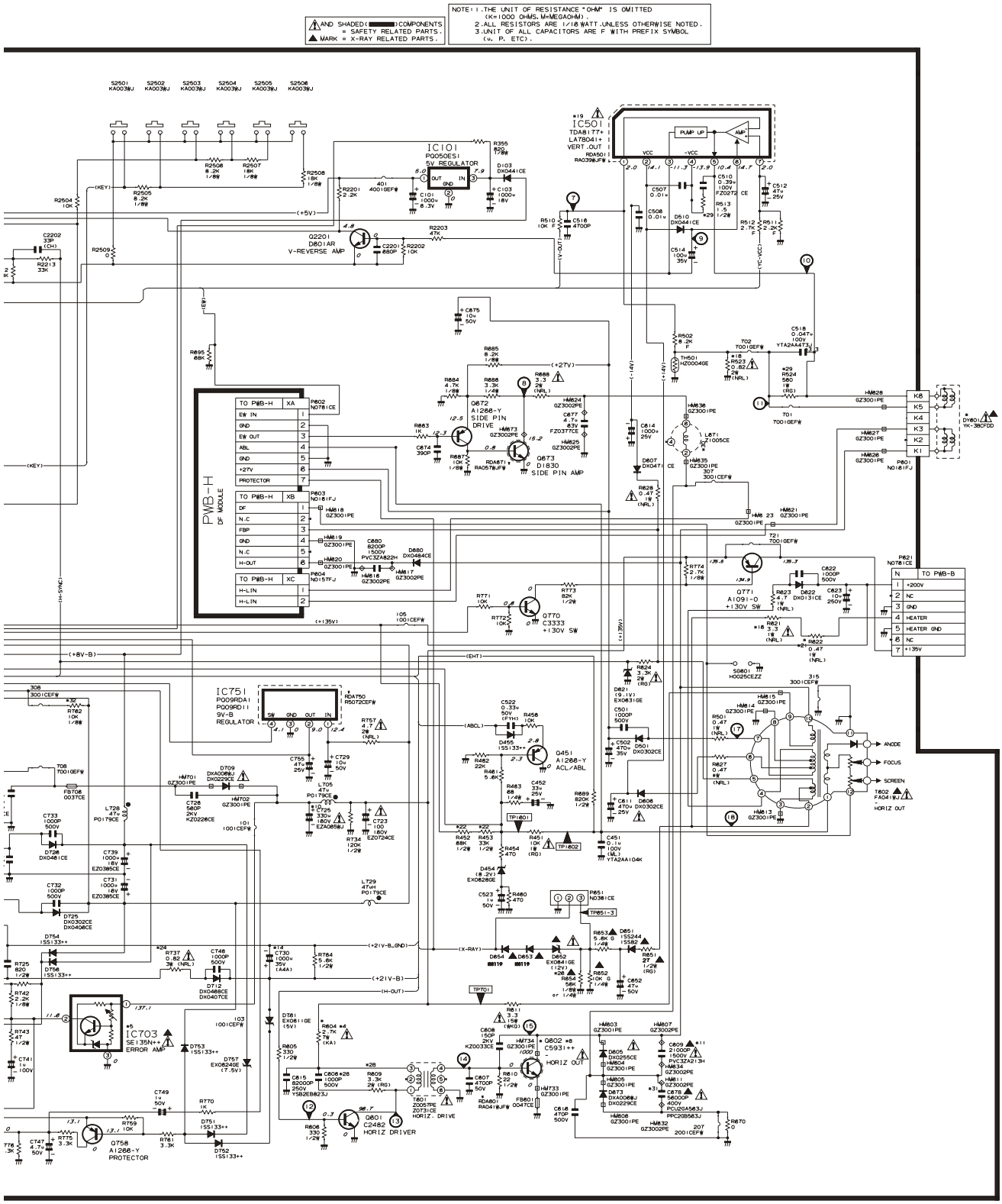
㉑ 3.0 Vpp ㉒ 130 Vpp ㉓ 125 Vpp ㉔ 130 Vpp

SCHEMATIC DIAGRAM: CRT Unit



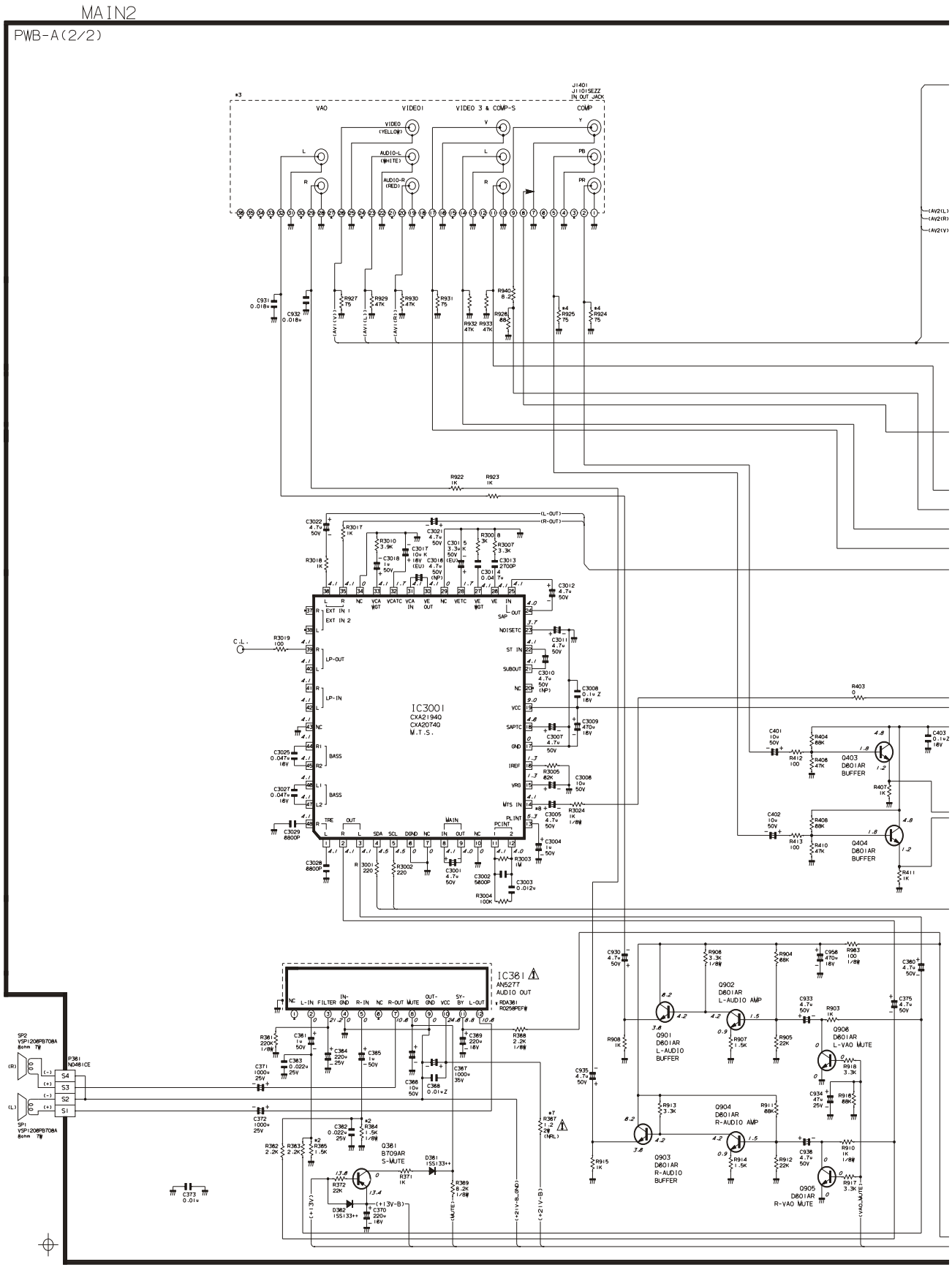
SCHEMATIC DIAGRAM: MAIN-1 Unit

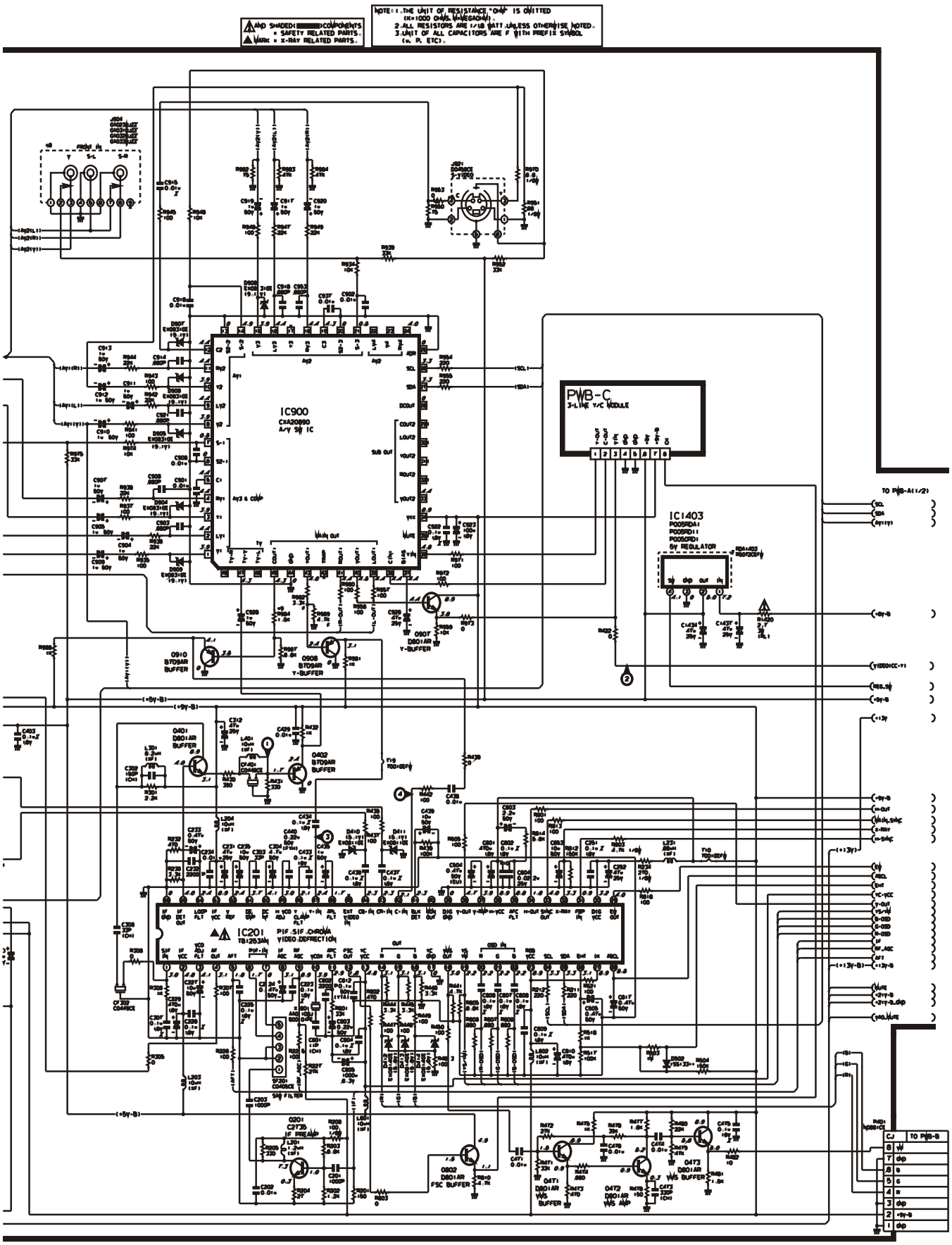




10	11	12	13	14	15	16	17	18	19

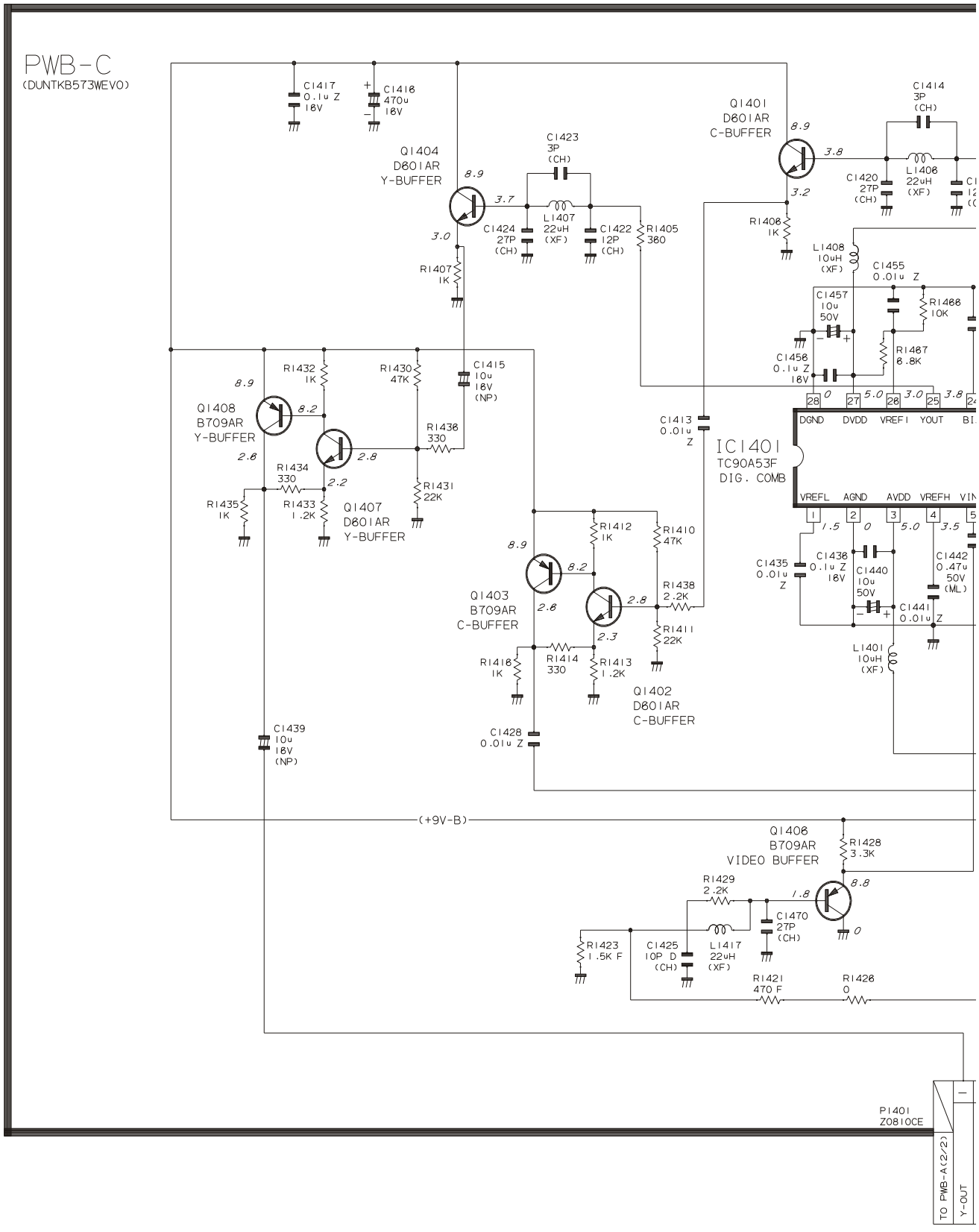
SCHEMATIC DIAGRAM: MAIN-2 Unit



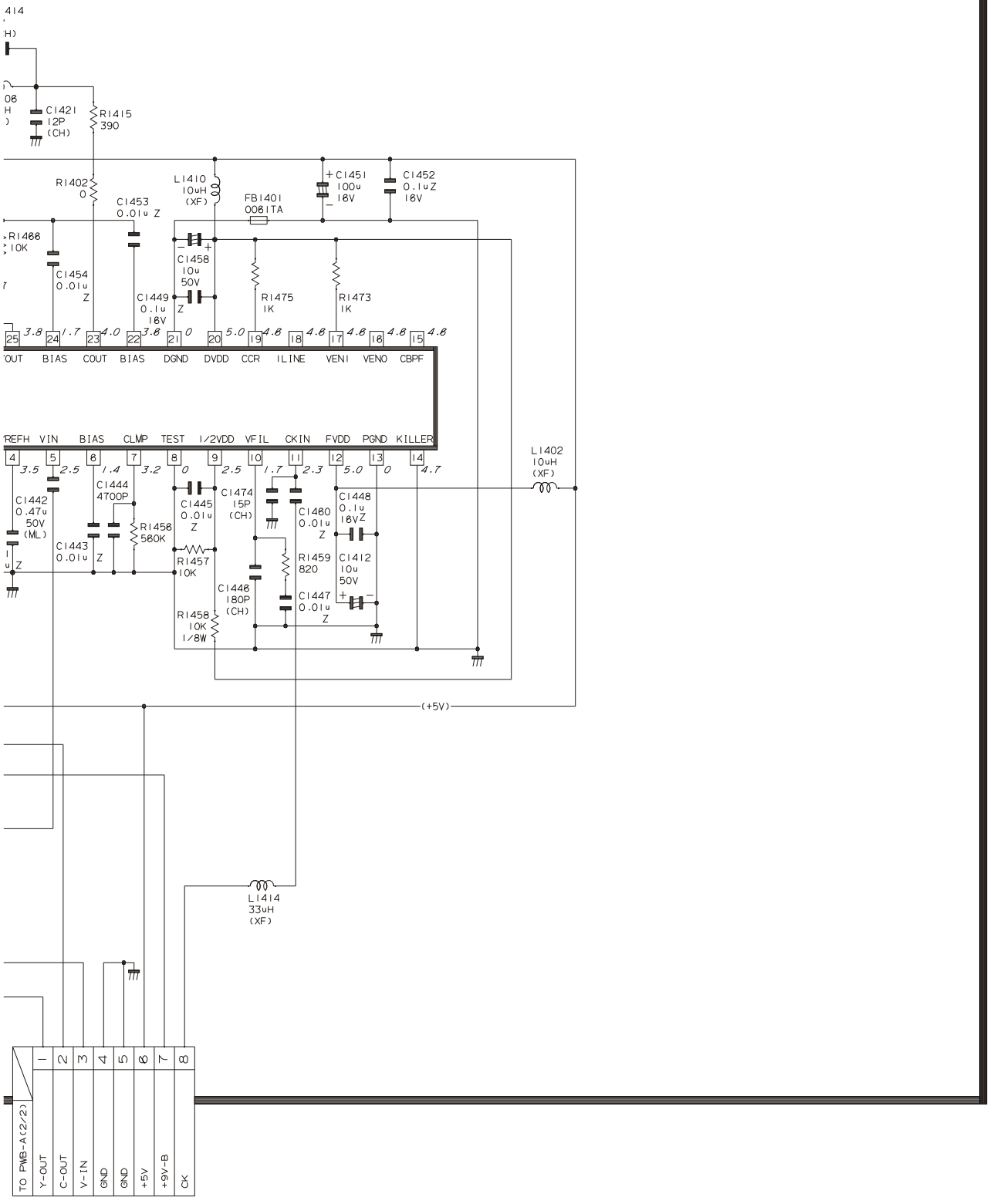


10	11	12	13	14	15	16	17	18	19

SCHEMATIC DIAGRAM: 3-LINE Y/C Unit

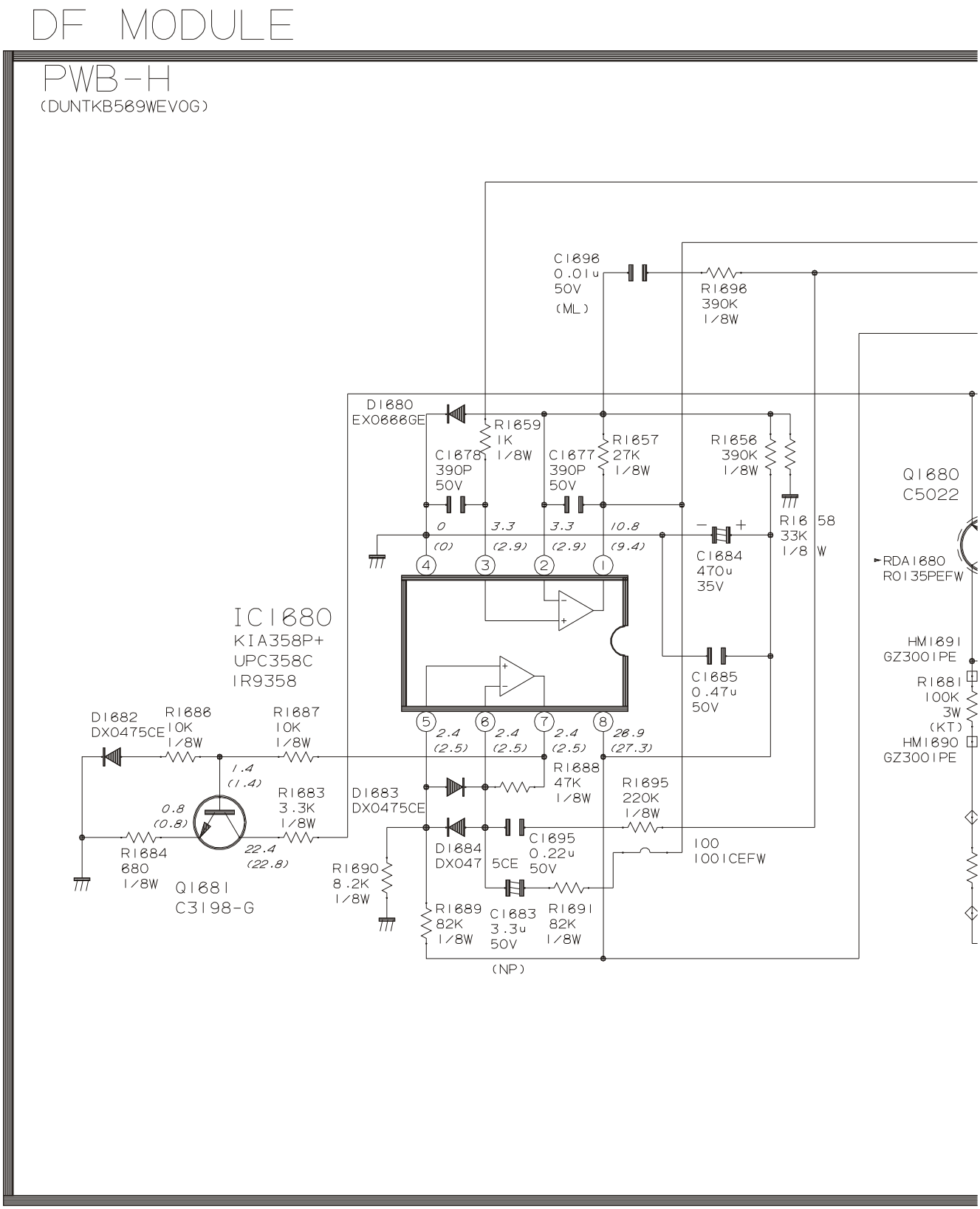


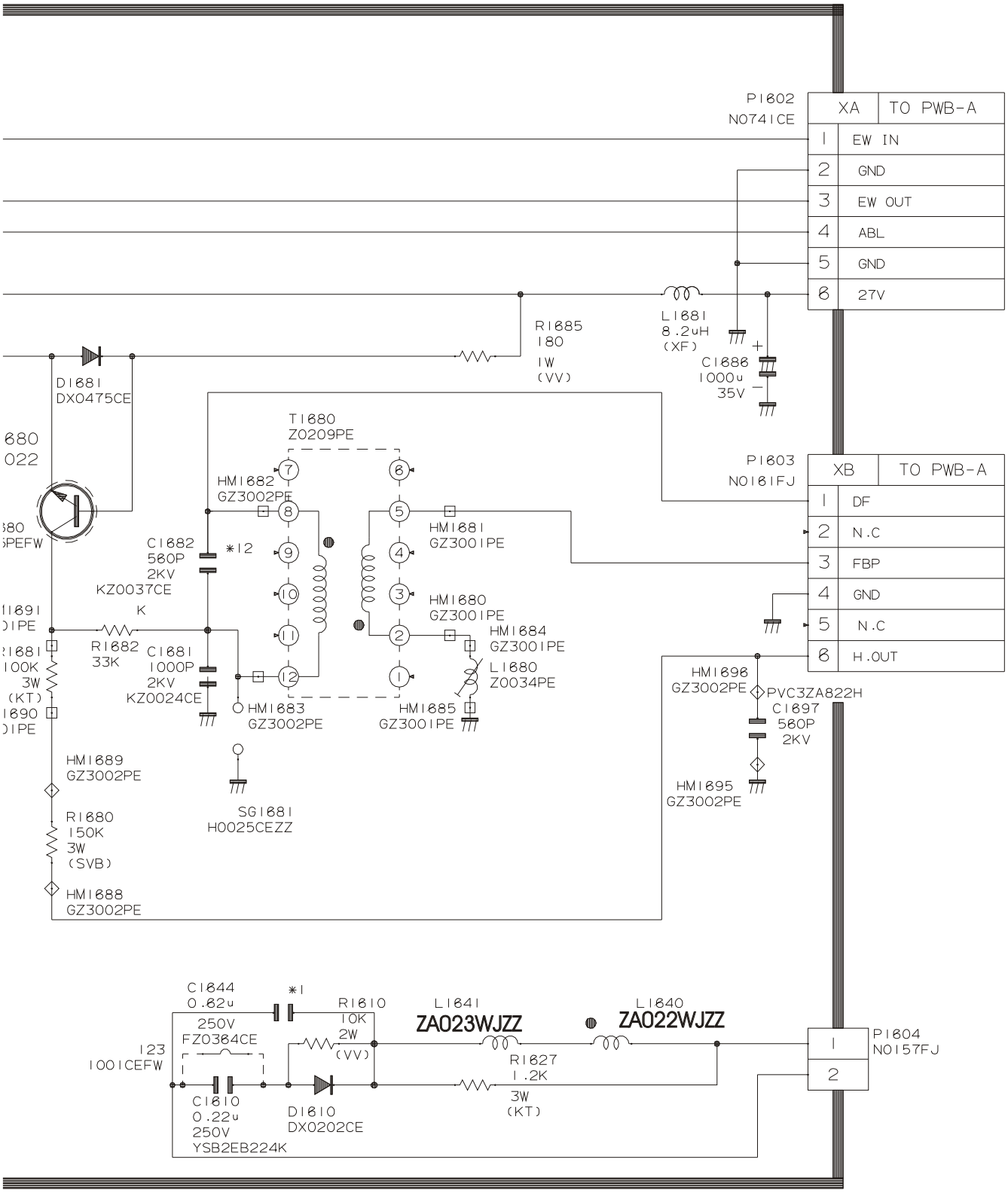
NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED
(K=1000 OHMS, M=MEGAOHM).
2. ALL RESISTORS ARE 1/16 WATT. UNLESS OTHERWISE NOTED.
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
(u, P, ETC).



10	11	12	13	14	15	16	17	18	19

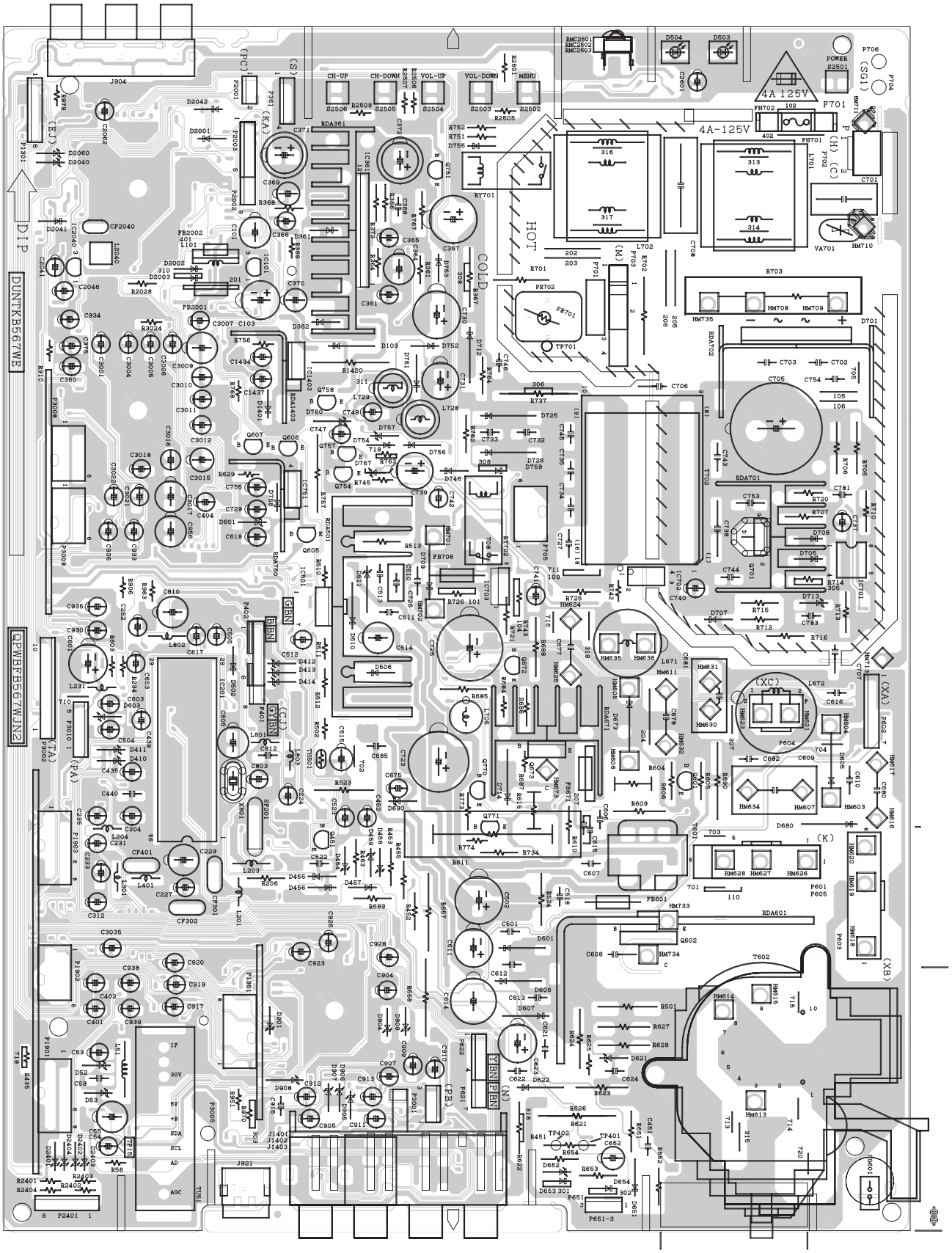
SCHEMATIC DIAGRAM: MODULE D/F Unit



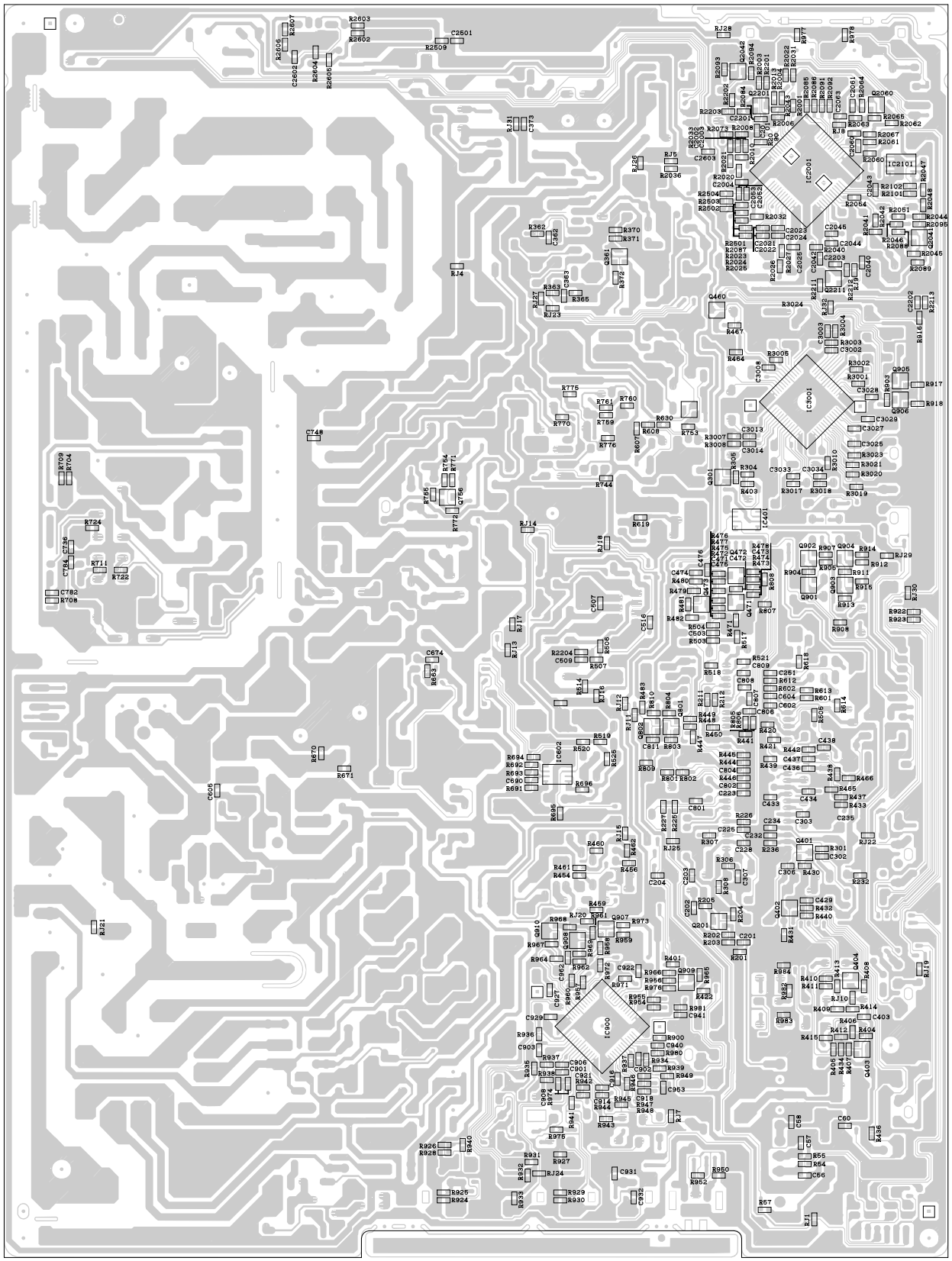


10	11	12	13	14	15	16	17	18	19

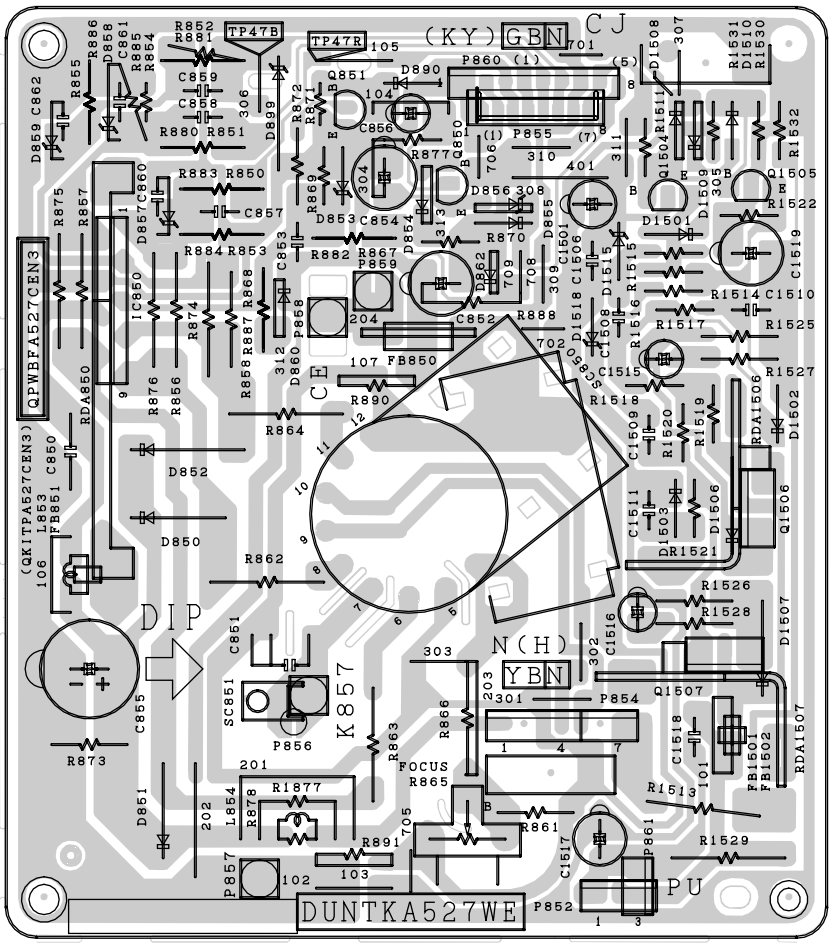
PRINTED WIRING BOARD ASSEMBLIES



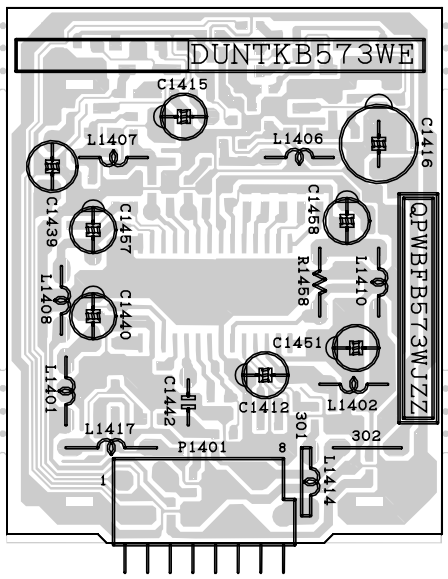
PWB-A: MAIN Unit (Components Side)



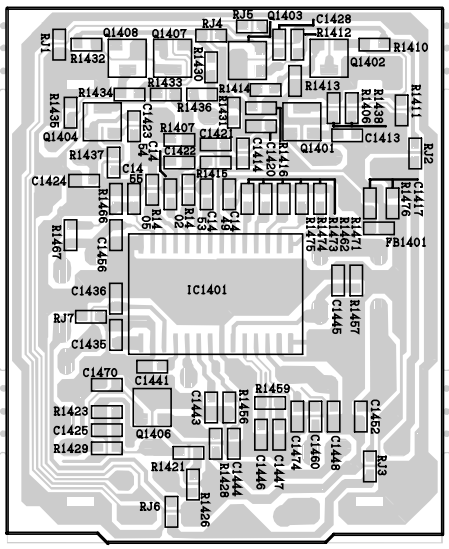
PWB-A: MAIN Unit (Chip Parts Side)



PWB-B: CRT Unit (Wiring Side)

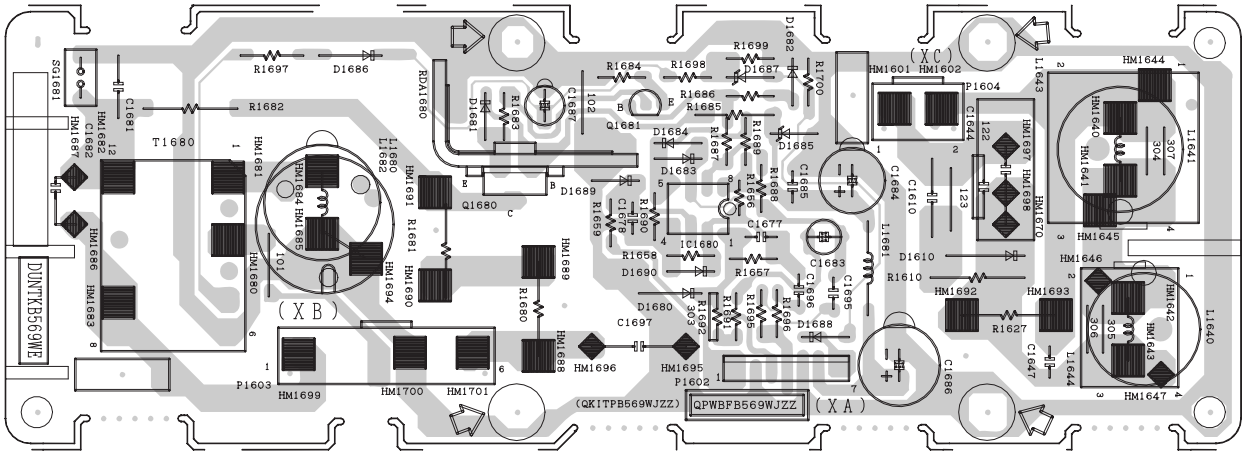


PWB-C: 3-LINE Y/C Unit (Wiring Side)



PWB-C: 3-LINE Y/C Unit (Chip Parts Side)

PWB-H: DF MODULE Unit (Wiring Side)



1	2	3	4	5	6

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which dose no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

« MARK: SPARE PARTS-DELIVERY SECTION

p **MARK: X-RAY RELATED PARTS**

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

▲ ⚠	V101	VB89AJZ90X+1E	X	Picture Tube	CY
⚠	L703	RCILGA048WJZZ	X	Degaussing Coil	AR
⚠		QEARCA009WJZZ	X	Ground-Part	AD

PRINTED WIRING BOARD ASSEMBLIES

(NOT REPLACEMENT ITEM)

PWB-A	DUNTKC290WED5	—	MAIN Unit	—
PWB-B	DUNTKA527WEE2	—	CRT Unit	—
PWB-C	DUNTKB573WEV0	—	3-LINE Y/C Unit	—
PWB-H	DUNTKB569WEV0	—	DF MODULE Unit	—

Ref. No.	Part No.	★	Description	Code

PWB-A: DUNTKC290WED5

MAIN UNIT

TUNER

NOTE:THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDETLY

⚠	TU51	VTUVT1T5UF202	X	Tuner	AS

INTEGRATED CIRCUITS

	IC101	VHIPQ050ES1-1+	X	PQ050ES1MXP	AD
▲ ⚠	IC201	VHITB1253AN-1	X	TB1253AN	AS
⚠	IC361	VHIAN5277//-1	X	AN5277	AK
⚠	IC501	VHITDA8177+-1	X	TDA8177	AG
⚠	IC701	VHITEA1533A-1	X	TEA1533AP	AG
⚠	IC702	RH-FXA003WJZZ	X	PC123Y82	AC
▲ ⚠	IC703	VHISE135N++-F	X	I.C.	AF
	IC751	VHIPQ09RDA1-1	X	PQ090RDA1SZ	AF
	IC900	VHICXA2089Q-2Y	X	CXA2089Q-6T	AM
	IC1403	VHIPQ05RDA1-1	X	PQ050RDA1SZ	AF
	IC2001	RH-IXA418WJZZQ	X	TMP88CS38BFG	AQ
	IC2040	VHIKIA7045A-1+	X	KIA7045AP	AC
	IC2101	VHIBR24L16F-1Y	X	BR24L16F	AE
	IC3001	VHICXA2194Q-1Y	X	CXA2194Q	AR

TRANSISTORS

	Q201	VS2SC2735//1EY	X	2SC2735	AB
	Q361	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q401	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q402	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q403	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q404	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q451	VS2SA1266-Y-1+	X	2SA1266(Y)	AB
	Q460	VSRT1N441C/-1Y	X	RT1N441C	AB
	Q471	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q472	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q473	VS2SD601AR/-1Y	X	2SD601AR	AA
▲ ⚠	Q601	VS2SC2482//-1+	X	2SC2482	AC
	Q602	VS2SC5931++-F	X	2SC5931	AK
	Q672	VS2SA1266-Y-1+	X	2SA1266(Y)	AB
	Q673	VS2SD1830//1E	X	2SD1830	AF
▲ ⚠	Q701	VSSPA11N603-1	X	SPA11N603	AM
	Q751	VS2SC3198-G-1+	X	2SC3198-G	AB
	Q754	VS2SC3198-G-1+	X	2SC3198-G	AB
	Q755	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q756	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q757	VS2SC3198-G-1+	X	2SC3198-G	AB
	Q758	VS2SA1266-Y-1+	X	2SA1266(Y)	AB
	Q802	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q901	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q902	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q903	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q904	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q905	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q906	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q907	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q908	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q910	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q2041	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q2042	VS2SB709AR/-1Y	X	2SB709AR	AA
	Q2060	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q2201	VS2SD601AR/-1Y	X	2SD601AR	AA
	Q2211	VS2SD601AR/-1Y	X	2SD601AR	AA

DIODE

	D52	RH-EX0676GEZZY	X	Zener	Diode	32V	AB
	D103	RH-DX0441CEZZY	X	Diode			AA
	D361	VHD1SS133++-1Y	X	Diode			AA
	D362	VHD1SS133++-1Y	X	Diode			AA
	D410	RH-EX0611GEZZY	X	Zener	Diode	5.1V	AB
	D411	RH-EX0611GEZZY	X	Zener	Diode	5.1V	AB
	D412	RH-EX0614GEZZY	X	Zener	Diode	5.6V	AB

PWB-A: DUNTKC290WED5
MAIN UNIT

Ref. No.	Part No.	★	Description	Code
DIODE				
D413	RH-EX0614GEZZY	X	Zener Diode 5.6V	AB
D414	RH-EX0614GEZZY	X	Zener Diode 5.6V	AB
D454	RH-EX0628GEZZY	X	Zener Diode 8.2V	AB
D455	VHD1SS133++-1Y	X	Diode	AA
D501	RH-DX0302CEZZY	X	Diode	AC
D502	VHD1SS133++-1Y	X	Diode	AA
D510	RH-DX0441CEZZY	X	Diode	AA
⚠ D605	RH-DX0255CEZZ	X	Diode	AE
⚠ D606	RH-DX0302CEZZY	X	Diode	AC
D607	RH-DX0471CEZZY	X	Diode	AC
D621	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
⚠ D622	RH-DX0131CEZZY	X	Diode	AB
▲ ⚠ D651	VHD1SS244//-1Y	X	Diode	AA
▲ ⚠ D652	RH-EX0641GEZZY	X	Zener Diode 12V	AB
▲ ⚠ D653	VHD1SS133++-1Y	X	Diode	AA
▲ ⚠ D654	VHD1SS133++-1Y	X	Diode	AA
⚠ D673	RH-DXA006WJZZ	X	Diode	AC
D680	RH-DX0484CEZZ	X	Diode	AE
⚠ D701	RH-DX0477CEZZ	X	Diode	AF
D706	VHD1SS133++-1Y	X	Diode	AA
D707	VHD1SS244//-1Y	X	Diode	AA
D708	VHD1SS244//-1Y	X	Diode	AA
⚠ D709	RH-DXA006WJZZ	X	Diode	AC
D710	RH-EX0650GEZZY	X	Zener Diode 16V	AB
D711	RH-EX0655GEZZY	X	Zener Diode	AB
D712	RH-DX0468CEZZ	X	Diode	AD
D725	RH-DX0302CEZZY	X	Diode	AC
D726	RH-DX0461CEZZ	X	Diode	AD
D746	VHD1SS133++-1Y	X	Diode	AA
D751	VHD1SS133++-1Y	X	Diode	AA
D752	VHD1SS133++-1Y	X	Diode	AA
D753	VHD1SS133++-1Y	X	Diode	AA
D754	VHD1SS133++-1Y	X	Diode	AA
D755	VHD1SS133++-1Y	X	Diode	AA
D756	VHD1SS133++-1Y	X	Diode	AA
D757	RH-EX0624GEZZY	X	Zener Diode	AB
D759	VHD1SS133++-1Y	X	Diode	AA
D761	RH-EX0611GEZZY	X	Zener Diode 5.1V	AB
D763	VHD1SS133++-1Y	X	Diode	AA
D767	RH-EX0637GEZZY	X	Zener Diode	AB
D904	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D905	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D906	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D907	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D908	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D909	RH-EX0631GEZZY	X	Zener Diode 9.1V	AB
D2001	VHD1SS133++-1Y	X	Diode	AA
D2040	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB
D2041	VHD1SS133++-1Y	X	Diode	AA
D2042	VHD1SS133++-1Y	X	Diode	AA
D2060	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB
PACKAGED CIRCUITS				
TH501	RH-HZ0004GEZZ+	X	Thermistor	AD
⚠ VA701	RH-VXA009WJZZ	X	VARISTOR	AC
⚠ PR701	RMPTP0092CEZZ	X	Packaged Circuit	AE
X801	RCRSAA010WJZZ	X	Crystal	AD
FILTERS AND COILS				
CF302	RFILC0449CEZZ+	X	Filter	AC
CF401	RFILC0446CEZZ+	X	Filter	AC
SF201	RFILC0405CEZZ	X	Filter (4.5MHZ)	AF
L51	VP-CF100K0000Y	X	Peaking, 10mH	AB
L201	VP-XF1R2K0000Y	X	Peaking 1.2mH	AA
L203	VP-XF100K0000Y	X	Peaking, 10mH	AA
L204	VP-XF100K0000Y	X	Peaking, 10mH	AA
L231	VP-XF680K0000Y	X	Peaking,68mH	AA
L301	VP-XF8R2K0000Y	X	Peaking,8.2mH	AA
L401	VP-XF100K0000Y	X	Peaking,10mH	AA
L671	RCILZ1005CEZZ	X	LZ1005CE	AE
L701	RCILF0345CEZZ	X	Coil	AE
L702	RCILF0345CEZZ	X	Coil	AE
L705	RCILP0179CEZZ+	X	Coil	AB
L728	RCILP0179CEZZ+	X	Coil	AB
L729	RCILP0179CEZZ+	X	Coil	AB
L801	VP-XF100K0000Y	X	Peaking,10mH	AA
L802	VP-XF100K0000Y	X	Peaking,10mH	AA
L2040	RCILBA007WJZZ	X	Oscillation Coil	AD
TRANSFORMERS				
⚠ T601	RTRNZ0057PEZZ	X	Transformer	AF
▲ ⚠ T602	RTRNFA041WJZZ	X	H-Volt Transformer	AY
⚠ T702	RTRNWA072WJZZ	X	Transformer	AL
CAPACITORS				
[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]				
C53	VCEA0A1HW105M+	X	1 50V EL.	AA
C54	VCEA0A1HW475M+	X	4.7 50V EL.	AA
C55	VCEA0A0JW108M+	X	1000 6.3V EL.	AB
C58	VCKYCY1HF103ZY	X	0.01uF 50V Ceramic	AA
C59	VCKYPA1HF103Z+	X	0.01uF 50V Ceramic	AA
C101	VCEA0A0JW108M+	X	1000 6.3V EL.	AB
C103	VCEA0A1CW108M+	X	1000 16V EL.	AC
C201	VCKYCY1HB102KY	X	1000p 50V Ceramic	AA
C202	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C203	VCKYCY1HB102KY	X	1000p 50V Ceramic	AA
C223	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C224	VCEA0A1HW474M+	X	0.47 50V EL.	AA
C225	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C227	VCEA0A1HW106M+	X	10 50V EL.	AA
C228	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C229	VCEA0A1CW477M+	X	470 16V EL.	AB
C231	VCEA0A1EW476M+	X	47 25V EL.	AA
C232	VCKYCY1HB222KY	X	2200p 50V Ceramic	AA
C233	VCEA0A1HW474M+	X	0.47 50V EL.	AA
C234	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C235	VCEA0A1HW106M+	X	10 50V EL.	AA
C251	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C252	VCEA0A1EW476M+	X	47 25V EL.	AA
C302	VCCCCY1HH151JY	X	150p 50V Ceramic	AA
C303	VCCCCY1HH330JY	X	33p 50V Ceramic	AA
C304	VCEA0A1HW475M+	X	4.7 50V EL.	AA
C306	VCCCCY1HH330JY	X	33p 50V Ceramic	AA
C307	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C312	VCEA0A1EW476M+	X	47 25V EL.	AA
C360	VCEA0A1HW475M+	X	4.7 50V EL.	AA
C361	VCEA0A1HW105M+	X	1 50V EL.	AA
C362	VCKYCY1EB223KY	X	0.022 25V Ceramic	AA
C363	VCKYCY1EB223KY	X	0.022 25V Ceramic	AA
C364	VCEA0A1EW227M+	X	220 25V EL.	AB
C365	VCEA0A1HW105M+	X	1 50V EL.	AA
C366	VCEA0A1HW106M+	X	10 50V EL.	AA
C367	VCEA0A1VW108M+	X	1000 35V EL.	AC
C368	VCKYPA1HF103Z+	X	0.01uF 50V Ceramic	AA
C369	VCEA0A1CW227M+	X	220 16V EL.	AB
C370	VCEA0A1CW227M+	X	220 16V EL.	AB
C371	VCEA0A1EW108M+	X	1000 25V EL.	AC
C372	VCEA0A1EW108M+	X	1000 25V EL.	AC
C373	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C375	VCEA0A1HW475M+	X	4.7 50V EL.	AA
C401	VCEA0A1HW106M+	X	10 50V EL.	AA
C402	VCEA0A1HW106M+	X	10 50V EL.	AA
C403	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C429	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C433	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C434	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA

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MAIN UNIT

CAPACITORS
[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

Ref. No.	Part No.	★	Description			Code
C435	VCEA0A1HW105M+	X	1	50V	EL.	AA
C436	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C437	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C438	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C439	VCEA0A1HW106M+	X	10	50V	EL.	AA
C440	VCFYFA1HA224J+	X	0.22	50V	Mylar	AB
C451	VCQYTA2AA104K+	X	0.1uF	100V	Mylar	AB
C452	VCEA0A1EW336M+	X	33	25V	EL.	AA
C471	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C473	VCCCCY1HH331JY	X	330p	50V	Ceramic	AA
C474	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C475	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C476	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C501	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C502	VCEA0A1VW477M+	X	470	35V	EL.	AC
C504	VCEACA1HC474M+	X	0.47	50V	EL.	AB
C505	VCEA0A1HW474M+	X	0.47	50V	EL.	AA
C506	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C507	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C510	RC-FZ0272CEZZ+	X	0.39	100V	Mylar	AC
C512	VCEA0A1EW476M+	X	47	25V	EL.	AA
C514	VCEA0A1VW107M+	X	100	35V	EL.	AB
C516	VCKYCY1HB472KY	X	100	35V	EL.	AA
C517	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C518	VCQYTA2AA473J+	X	0.047uF	100V	Mylar	AB
C522	VCFYFA1HA334J+	X	0.33	50V	Mylar	AB
C523	VCEA0A1HW105M+	X	1	50V	EL.	AA
C601	VCEA0A1CW108M+	X	1000	16V	EL.	AC
C602	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C603	VCEA0A1HW225M+	X	2.2	50V	EL.	AA
C604	VCKYCY1EB223KY	X	0.022	25V	Ceramic	AA
C606	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C607	VCKYPA1HB472K+	X	4700p	50V	Ceramic	AA
C608	RC-KZ0033CEZZ	X	150p	2kV	Ceramic	AB
▲ ⚠ C609	VCFPVC3ZA213H	X	0.021uF	1500V	M.Poly.	AD
C611	VCEA0A1EW477M+	X	470	25V	EL.	AB
C614	VCEA0A1EW108M+	X	1000	25V	EL.	AC
C615	VCFYSB2EB823J	X	0.082uF	250V	M.Poly..	AB
C616	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C617	VCEA0A1HW474M+	X	0.47	50V	EL.	AA
C622	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C623	VCEA4A2EN106M+	X	10	250V	EL.	AC
C652	VCEA0A1HW476M+	X	47	50V	EL.	AB
C653	VCEA0A1HW106M+	X	10	50V	EL.	AA
C674	VCKYCY1HB391KY	X	390p	50V	Ceramic	AA
C675	VCEA0A1HW106M+	X	10	50V	EL.	AA
C677	RC-FZ0377CEZZ	X	4.7	50V	Mylar	AE
▲ ⚠ C678	VCQPPC2GB563J	X	0.056uF	400V	Mylar	AC
C680	VCFPVC3ZA822H	X	8200p	1500V	M.Poly.	AC
▲ ⚠ C701	RC-FZA022WJZZ	X	0.22	AC250V	M.Poly.	AC
C702	RC-KZ0029CEZZ+	X	0.01	AC250V	Ceramic	AB
C703	RC-KZ0029CEZZ+	X	0.01	AC250V	Ceramic	AB
⚠ C705	RC-EZ0722CEZZ	X	820	200V	EL.	AK
⚠ C706	RC-KZ0089GEZZA	X	1000p	AC250V	Ceramic	AB
⚠ C707	RC-KZ0092GEZZA	X	3300p	AC250V	Ceramic	AC
⚠ C723	RC-EZ0724CEZZ	X	100	160V	EL.	AD
⚠ C725	RC-EZA065WJZZ	X	330	160V	EL.	AG
C726	RC-KZ0226CEZZ+	X	560p	2kV	Ceramic	AC
C727	RC-KZ0226CEZZ+	X	560p	2kV	Ceramic	AC
C729	VCEA0A1HW106M+	X	10	50V	EL.	AA
C730	VCEA4A1VN108M+	X	1000	35V	EL.	AE
C731	RC-EZ0385CEZZ+	X	1000	16V	EL.	AC
C732	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C733	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C734	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C735	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C736	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C737	VCEA0A1HW226M+	X	22	50V	EL.	AA
C738	VCFPVC3CA102H	X	1000p	1250V	M.Poly.	AC
C739	RC-EZ0385CEZZ+	X	1000	16V	EL.	AC
C740	VCEA0A1HW476M+	X	47	50V	EL.	AB
C741	VCEA4A2AN105M+	X	1	100V	EL.	AB
C742	VCEA0A1HW226M+	X	22	50V	EL.	AA
C743	RC-KZ0036CEZZ+	X	330p	2kV	Ceramic	AC
C744	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C745	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C746	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C747	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C750	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C753	RC-KZ0036CEZZ+	X	330p	2kV	Ceramic	AC
C754	VCKYPA2HB472K+	X	4700p	500V	Ceramic	AB
C755	VCEA0A1EW476M+	X	47	25V	EL.	AA
C758	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C780	VCEA0A1HW226M+	X	22	50V	EL.	AA
C781	VCFYFA1HA105J+	X	1	50V	M-Poly.	AC
C782	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C783	VCQYTA1HM103J+	X	0.01uF	50V	Mylar	AA
C784	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C801	VCCCCY1HH110JY	X	11pF	50V	Ceramic	AA
C802	VCKYCY1HB222KY	X	2200p	50V	Ceramic	AA
C803	VCEA0A1HW224M+	X	0.22	50V	EL.	AA
C804	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C805	VCEA0A0JW108M+	X	1000	6.3V	EL.	AB
C806	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C807	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C808	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C809	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C810	VCEA0A1CW477M+	X	470	16V	EL.	AB
C812	VCQYTA1HM104J+	X	0.1uF	50V	Mylar	AB
C901	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C902	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C903	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C904	VCEA0A1HW105M+	X	1	50V	EL.	AA
C905	VCEA0A1HW105M+	X	1	50V	EL.	AA
C906	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C907	VCEA0A1HW105M+	X	1	50V	EL.	AA
C908	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C909	VCEA0A1HW105M+	X	1	50V	EL.	AA
C910	VCEA0A1HW105M+	X	1	50V	EL.	AA
C911	VCEA0A1HW105M+	X	1	50V	EL.	AA
C912	VCEA0A1HW105M+	X	1	50V	EL.	AA
C913	VCEA0A1HW105M+	X	1	50V	EL.	AA
C914	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C915	VCKYPA1HF103Z+	X	0.01uF	50V	Ceramic	AA
C916	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C917	VCEA0A1HW105M+	X	1	50V	EL.	AA
C918	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C919	VCEA0A1HW105M+	X	1	50V	EL.	AA
C920	VCEA0A1HW105M+	X	1	50V	EL.	AA
C921	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C922	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C923	VCEA0A1CW107M+	X	100	16V	EL.	AA
C926	VCEA0A1EW476M+	X	47	25V	EL.	AA
C928	VCEA0A1HW105M+	X	1	50V	EL.	AA
C930	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C931	VCKYCY1HB183KY	X	0.018	50V	Ceramic	AA
C932	VCKYCY1HB183KY	X	0.018	50V	Ceramic	AA
C933	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C934	VCEA0A1EW476M+	X	47	25V	EL.	AA
C935	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C936	VCEA0A1HW475M+	X	4.7	50V	EL.	AA

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MAIN UNIT

CAPACITORS
[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

Ref. No.	Part No.	★	Description			Code
C937	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C953	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C956	VCEA0A1CW477M+	X	470	16V	EL.	AB
C1434	VCEA0A1EW476M+	X	47	25V	EL.	AA
C1437	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2001	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2002	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C2025	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2040	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2041	VCEA0A1HW105M+	X	1	50V	EL.	AA
C2043	VCCCCY1HH331JY	X	330p	50V	Ceramic	AA
C2044	VCCCCY1HH100DY	X	10p	50V	Ceramic	AA
C2046	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2047	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C2060	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2061	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2062	VCEA0A1CW107M+	X	100	16V	EL.	AA
C2063	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2064	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2201	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C2202	VCCCCY1HH330JY	X	33p	50V	Ceramic	AA
C2601	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2602	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C3001	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3002	VCKYCY1HB562KY	X	5600p	50V	Ceramic	AA
C3003	VCKYCY1EB123KY	X	0.012	25V	Ceramic	AA
C3004	VCEA0A1HW105M+	X	1	50V	EL.	AA
C3005	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3006	VCEA0A1HW106M+	X	10	50V	EL.	AA
C3007	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3008	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C3009	VCEA0A1CW477M+	X	470	16V	EL.	AB
C3010	VCE9GA1HW475M+	X	4.7	50V	EL.	AB
C3011	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3012	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3013	VCKYCY1HB272KY	X	2700p	50V	Ceramic	AA
C3014	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3015	VCEACA1HC335K+	X	3.3	50V	EL.	AC
C3016	VCE9GA1HW475M+	X	4.7	50V	EL.	AB
C3017	VCEACA1CC106K+	X	10	16V	EL.	AC
C3018	VCEA0A1HW105M+	X	1	50V	EL.	AA
C3021	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3022	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3025	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3027	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3028	VCKYCY1HB682KY	X	6800p	50V	Ceramic	AA
C3029	VCKYCY1HB682KY	X	6800p	50V	Ceramic	AA

RESISTORS
[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

Ref. No.	Part No.	★	Description			Code
RJ1	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ2	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ3	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ4	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ5	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ6	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ7	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ8	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ9	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ10	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ11	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ12	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ13	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ14	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ15	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ16	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ19	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ20	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ21	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ22	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ23	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ24	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ25	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ30	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ33	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ36	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ38	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ39	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ40	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ42	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ45	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ47	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ48	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ50	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R54	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R55	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R56	VRD-RA2BE823JY	X	82k	1/8W	Carbon	AA
R57	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R201	VRS-CY1JF151JY	X	150	1/16W	M-Ox.	AA
R202	VRS-CY1JF122JY	X	1.2k	1/16W	M-Ox.	AA
R203	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R204	VRS-CY1JF270JY	X	27	1/16W	M-Ox.	AA
R205	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R206	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R211	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R212	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R225	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R226	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R227	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R232	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R234	VRD-RA2BE271JY	X	270	1/8W	Carbon	AA
R236	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R301	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R305	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R306	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R307	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R308	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R355	VRD-RA2BE821JY	X	820	1/8W	Carbon	AA
R361	VRD-RA2BE224JY	X	220k	1/8W	M-Ox.	AA
R362	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R363	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R364	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
R365	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
⚠ R367	VRN-RL3DB1R2J+	X	1.2	2W	M-Film	AB
R368	VRD-RA2BE222JY	X	2.2k	1/8W	Carbon	AA
R369	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R371	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R372	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R403	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R404	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R406	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R407	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R408	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R410	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R411	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R412	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R413	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R422	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R430	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
R431	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R432	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R436	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA

PWB-A: DUNTKC290WED5
MAIN UNIT

RESISTORS
[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

Ref. No.	Part No.	★	Description			Code
R437	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R438	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R439	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R441	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R442	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R444	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R445	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R446	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R447	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R448	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R449	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R450	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
⚠ R451	VRS-RG3AB103J+	X	10k	1W	M-Ox.	AB
R452	VRD-RM2HD473JY	X	47k	1/2W	Carbon	AA
R453	VRD-RM2HD183JY	X	18k	1/2W	Carbon	AA
R454	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R456	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R460	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R461	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R462	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R463	VRD-RA2EE680JY	X	68	1/4W	Carbon	AA
R464	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R467	VRS-CY1JF123JY	X	12k	1/16W	M-Ox.	AA
R471	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R472	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R473	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R474	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R475	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R476	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R477	VRS-CY1JF182JY	X	1.8k	1/16W	M-Ox.	AA
R478	VRS-CY1JF151JY	X	150	1/16W	M-Ox.	AA
R479	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R480	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R481	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R482	VRS-CY1JF100JY	X	10	1/16W	M-Ox.	AA
R483	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
⚠ R501	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
R502	VRN-RA2BK822FY	X	8.2k	1/8W	M-Film	AA
R503	VRS-CY1JF105JY	X	1M	1/16W	M-Ox.	AA
R504	VRS-CY1JF154JY	X	150k	1/16W	M-Ox.	AA
R505	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R510	VRN-RA2BK103FY	X	10k	1/8W	M-Film	AA
R511	VRN-RA2BK222FY	X	2.2k	1/8W	M-Film	AA
R512	VRN-RA2BK272FY	X	2.7k	1/8W	M-Film	AA
R513	VRD-RM2HD1R5JY	X	1.5	1/2W	Carbon	AA
R517	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R518	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R521	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
⚠ R523	VRN-RL3DBR82J+	X	0.82	2W	M-Film	AB
⚠ R524	VRS-RG3AB561J+	X	560	1W	M-Ox.	AB
R601	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R603	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
⚠ R604	VRS-KA3NG272J	X	2.7k	7W	M-Ox.	AD
R605	VRD-RM2HD331JY	X	330	1/2W	Carbon	AA
R606	VRD-RM2HD331JY	X	330	1/2W	Carbon	AA
⚠ R609	VRS-RG3DB332J+	X	3.3k	2W	M-Ox.	AB
R610	VRD-RM2HD150JY	X	15	1/2W	Carbon	AA
⚠ R611	VRW-KQ41C3R3K	X	3.3	15W	Cement	AD
R612	VRS-CY1JF154JY	X	150k	1/16W	M-Ox.	AA
R613	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R614	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R618	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
⚠ R621	VRN-RL3AB3R3J+	X	3.3	1W	M-Film	AB
⚠ R622	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
⚠ R623	VRN-RL3AB4R7J+	X	4.7	1W	M-Film	AB
⚠ R624	VRS-RG3DB332J+	X	3.3k	2W	M-Ox.	AB
⚠ R627	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
⚠ R628	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
▲ ⚠ R651	VRS-RG2HC270J+	X	27	1/2W	M-Ox.	AB
▲ ⚠ R652	VRD-RA2EE103GY	X	10k	1/4W	Carbon	AA
▲ ⚠ R653	VRD-RA2EE562GY	X	5.6k	1/4W	Carbon	AA
▲ ⚠ R654	VRD-RA2BE563JY	X	56k	1/8W	Carbon	AA
⚠ R658	VRS-RG3DB183J+	X	18k	2W	M-Ox.	AB
R663	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R670	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R684	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
R685	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R686	VRD-RA2EE332JY	X	3.3k	1/4W	Carbon	AA
R687	VRD-RA2BE103JY	X	10k	1/8W	Carbon	AA
⚠ R688	VRN-RL3DB3R3J+	X	3.3	2W	M-Film	AB
R689	VRD-RM2HD824JY	X	820k	1/2W	Carbon	AA
R695	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
⚠ R701	RR-DZ0049CEZZY	X	3.9M	1/2W	Solid	AB
⚠ R703	VRW-KQ4AC1R2K	X	1.2	10W	Cement	AC
⚠ R705	VRN-RL3DBR15J+	X	0.15	2W	M-Film	AB
⚠ R706	VRN-RL3DBR15J+	X	0.15	2W	M-Film	AB
R707	VRD-RM2HD270JY	X	27	1/2W	Carbon	AA
R708	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R709	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
⚠ R710	VRS-RG2HC103J+	X	10k	1/2W	M-Ox.	AB
R711	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R712	VRD-RM2HD100JY	X	10	1/2W	Carbon	AA
⚠ R713	VRS-RG2HC152J+	X	1.5k	1/2W	M-Ox.	AB
R714	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R715	VRN-RL2HCR56J+	X	0.56	1/2W	M-Film	AB
R716	VRD-RM2HD100JY	X	10	1/2W	Carbon	AA
R720	VRD-RA2BE473JY	X	47k	1/8W	Carbon	AA
R724	VRD-RM2HD101JY	X	100	1/2W	Carbon	AA
R725	VRD-RM2HD821JY	X	820	1/2W	Carbon	AA
R734	VRD-RM2HD124JY	X	120k	1/2W	Carbon	AA
⚠ R737	VRN-RL3LBR82J+	X	0.82	3.0W	M-Film	AC
R742	VRD-RA2BE222JY	X	2.2k	1/8W	Carbon	AA
R743	VRD-RM2HD470JY	X	47	1/2W	Carbon	AA
R744	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R745	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
R750	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R751	VRD-RA2BE473JY	X	47k	1/8W	Carbon	AA
R752	VRD-RA2BE392JY	X	3.9k	1/8W	Carbon	AA
R753	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R754	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R755	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R756	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
⚠ R757	VRN-RL3DB4R7J+	X	4.7	2W	M-Film	AB
R759	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R761	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R762	VRD-RA2EE151JY	X	150	1/4W	Carbon	AA
R764	VRD-RM2HD562JY	X	5.6k	1/2W	Carbon	AA
R767	VRD-RM2HD151JY	X	150	1/2W	Carbon	AA
R768	VRD-RA2BE393JY	X	39k	1/8W	Carbon	AA
R775	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R776	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R801	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R802	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R803	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R805	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R806	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R807	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R808	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R810	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R903	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R904	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA

PWB-A: DUNTKC290WED5
MAIN UNIT

RESISTORS
[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]

Ref. No.	Part No.	★	Description			Code
R905	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R906	VRD-RA2BE332JY	X	3.3k	1/8W	Carbon	AA
R907	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R908	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R910	VRD-RA2BE102JY	X	1k	1/8W	Carbon	AA
R911	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R912	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R913	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R914	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R915	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R916	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R917	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R918	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R922	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R923	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R924	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R925	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R926	VRS-CY1JF680JY	X	68	1/16W	M-Ox.	AA
R927	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R929	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R930	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R931	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R932	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R933	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R934	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R935	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R936	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R937	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R938	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R939	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R940	VRS-CY1JF8R2JY	X	8.2	1/16W	M-Ox.	AA
R941	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R942	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R943	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R944	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R945	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R946	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R947	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R948	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R949	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R950	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R951	VRD-RA2BE680JY	X	68	1/8W	Carbon	AA
R952	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R953	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R954	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R955	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R957	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R958	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R959	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R960	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R961	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R962	VRS-CY1JF332FY	X	3.3k	1/16W	M-Ox.	AA
R963	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R964	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R967	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R968	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R969	VRS-CY1JF472FY	X	4.7k	1/16W	M-Ox.	AA
R970	VRD-RA2BE6R8JY	X	6.8	1/8W	Carbon	AA
R971	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R972	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R973	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R974	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R975	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R982	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R983	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R984	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
⚠ R1420	VRN-RL3LB2R7J+	X	2.7	3.0W	M-Film	AC
R2001	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2004	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2008	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2010	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2013	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2021	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R2024	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2025	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2026	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2027	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2028	VRD-RA2BE102JY	X	1k	1/8W	Carbon	AA
R2031	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2033	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R2040	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2041	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2042	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2043	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2044	VRS-CY1JF153JY	X	15k	1/16W	M-Ox.	AA
R2045	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2046	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2047	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R2048	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2051	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2054	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2060	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R2061	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2062	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R2063	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2064	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R2073	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2084	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2086	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2088	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R2089	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R2090	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2092	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2093	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R2094	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2095	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2096	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2101	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2102	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2201	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2202	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2203	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2211	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2212	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2213	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2401	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R2402	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R2403	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R2404	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R2501	VRS-CY1JF183JY	X	18k	1/16W	M-Ox.	AA
R2502	VRS-CY1JF183JY	X	18k	1/16W	M-Ox.	AA
R2503	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2504	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2505	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R2506	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R2507	VRD-RA2BE183JY	X	18k	1/8W	Carbon	AA
R2508	VRD-RA2BE183JY	X	18k	1/8W	Carbon	AA
R2509	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2601	VRD-RA2BE100JY	X	10	1/8W	Carbon	AA
R2603	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R2605	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA

PWB-A: DUNTKC290WED5
MAIN UNIT

Ref. No.	Part No.	★	Description			Code
			RESISTORS			
			[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]			
R2606	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R3001	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R3002	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R3003	VRS-CY1JF105JY	X	1M	1/16W	M-Ox.	AA
R3004	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R3005	VRS-CY1JF623JY	X	62k	1/16W	M-Ox.	AA
R3007	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R3008	VRS-CY1JF302JY	X	3k	1/16W	M-Ox.	AA
R3010	VRS-CY1JF392JY	X	3.9k	1/16W	M-Ox.	AA
R3017	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R3018	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R3019	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R3024	VRD-RA2BE102JY	X	1k	1/8W	Carbon	AA
			SWITCHES			
S2501	QSW-KA003WJZZ+	X	Switch,			AB
S2502	QSW-KA003WJZZ+	X	Switch,			AB
S2503	QSW-KA003WJZZ+	X	Switch,			AB
S2504	QSW-KA003WJZZ+	X	Switch,			AB
S2505	QSW-KA003WJZZ+	X	Switch,			AB
S2506	QSW-KA003WJZZ+	X	Switch,			AB
			FERRITE BEAD			
FB601	RBLN-0047CEZZY	X	Ferrite Bead			AB
FB706	RBLN-0037CEZZY	X	Ferrite Bead			AA
FB2001	RBLN-0037CEZZY	X	Ferrite Bead			AA
			MISCELLANEOUS PARTS			
⚠ ACC701	QACCDA012WJPZ	X	AC Cord			AG
⚠ F701	QFS-B4023CEZZ	X	FUSE - 4A 125V			AC
FH701	QFSHD1013CEZZ+	X	FUSE CLIP			AB
FH702	QFSHD1014CEZZ+	X	FUSE CLIP			AB
J904	QJAKGA023WJZZ	X	JACK (A/V)			AD
J921	QSOCD0456CEZZ	X	Socket, S-Video			AD
J1401	QTANJ1101SEZZ	X	AV In/Out Terminal			AG
P361	QPLGN0461CEZZA	X	plug 4pin(S1-4)			AB
P401	QPLGN0861CEZZA	X	plug 8pin(CJ)			AC
P601	QPLGN0161FJZZ	X	plug 6Pin(K1-6)			AD
P602	QPLGN0761CEZZA	X	plug 7pin(N)			AC
P603	QPLGN0161FJZZ	X	plug 6Pin(K1-6)			AD
P604	QPLGN0157FJZZ	X	plug 2Pin(XC)			AC
P621	QPLGN0761CEZZA	X	plug 7pin(N)			AC
P651	QPLGN0361CEZZA	X	plug 3pin (TP651-3)			AB
P702	QPLGN0269GEZZ	X	plug 2pin (P1-2)			AB
P703	QPLGN0260CEZZ	X	plug 2pin (M1-2)			AB
P2401	QPLGN0661CEZZA	X	plug 6pin			AB
RDA361	PRDAR0258PEFW	X	Heat Sink			AE
RDA501	PRDARA039WJFW	X	Heat Sink			AF
RDA601	PRDARA041WJFW	X	Heat Sink			AF
RDA671	PRDARA057WJFW	X	Heat Sink			AD
RDA701	PRDAR0279PEFW	X	Heat Sink			AD
RDA750	PRDAR5072CEFW	X	Heat Sink			AC
RDA1403	PRDAR5072CEFW	X	Heat Sink			AC
RY701	RRLYJ0081CEZZ	X	Relay			AE
RY702	RRLYJ0088CEZZ	X	Relay			AE
SG601	QSPGH0025CEZZ	X	Spark Gap			AC
CF2040	RCRM-0003CEZZ+	X	Ceramic Vibrator			AD
RMC2601	RRMCU0222CEZZ	X	R/C Receiver			AF
TP701	QLUGP0102PEZZ	X	Test point			AA

PWB-B: DUNTKA527WEE2
CRT UNIT

Ref. No.	Part No.	★	Description			Code
			INTEGRATED CIRCUITS			
⚠ IC850	VHITDA6103Q-1	X	TDA6103Q/N3			AK
			TRANSISTORS			
Q850	VS2SA1266-Y-1+	X	2SA1266(Y)			AB
Q851	VS2SC3198-G-1+	X	2SC3198-G			AB
Q1504	VS2SC3198-G-1+	X	2SC3198-G			AB
Q1505	VS2SA1266-Y-1+	X	2SA1266(Y)			AB
Q1506	VS2SA1964E/-1	X	2SA1964E			AE
Q1507	VS2SC5248E/-1	X	2SC5248E			AE
			DIODE			
D850	RH-DX0220CEZZY	X	DX0220CE			AB
D851	RH-DX0220CEZZY	X	DX0220CE			AB
D852	RH-DX0220CEZZY	X	DX0220CE			AB
D853	RH-EX0647GEZZY	X	Zener	Diode,	15V	AB
D854	VHD1SS119//-1Y	X	Diode			AA
D855	VHD1SS119//-1Y	X	Diode			AA
D1502	VHD1SS119//-1Y	X	Diode			AA
D1503	VHD1SS119//-1Y	X	Diode			AA
D1506	RH-DX0487CEZZY	X	Diode			AC
D1507	RH-DX0487CEZZY	X	Diode			AC
D1510	VHD1SS119//-1Y	X	Diode			AA
			CAPACITORS			
			[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]			
C850	VCFYSB2EB224K	X	0.22uF	250V	M.Poly.	AB
C851	RC-KZ018JCEZZ	X	0.01	AC250V	Ceramic	AB
C852	VCEA0A1CW107M+	X	100	16V	EL.	AA
C853	VCFYFA1HA224J+	X	0.22	50V	Mylar	AB
C854	VCEA0A1CW227M+	X	220	16V	EL.	AB
C855	VCEA0A2EW336M+	X	33	250V	EL.	AD
C856	VCEA0A1HW106M+	X	10	50V	EL.	AA
C1501	VCEA0A1CW476M+	X	47	16V	EL.	AA
C1506	VCKYPA1HF103Z+	X	0.01uF	50V	Ceramic	AA
C1508	VCKYPA2HB472K+	X	4700p	500V	Ceramic	AB
C1509	VCKYPA1HB472K+	X	4700p	50V	Ceramic	AA
C1510	VCKYPA1HF103Z+	X	0.01uF	50V	Ceramic	AA
C1511	VCKYPA1HF103Z+	X	0.01uF	50V	Ceramic	AA
C1515	VCEA0A1HW476M+	X	47	50V	EL.	AB
C1516	VCEA0A1HW476M+	X	47	50V	EL.	AB
C1517	VCEA0A2AW106M+	X	10	100V	EL.	AB
C1518	VCCSPA2HL560K+	X	56p	500V	Ceramic	AB
C1519	VCEA0A2CW106M+	X	10	160V	EL.	AB
			RESISTORS			
			[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]			
⚠ R850	VRS-SV2HC152J	X	1.5k	1/2W	M-Ox.	AA
⚠ R851	VRS-SV2HC152J	X	1.5k	1/2W	M-Ox.	AA
⚠ R852	VRS-SV2HC152J	X	1.5k	1/2W	M-Ox.	AA
⚠ R853	VRS-SV2HC272J	X	2.7k	1/2W	M-Ox.	AA
⚠ R854	VRS-SV2HC272J	X	2.7k	1/2W	M-Ox.	AA
⚠ R855	VRS-SV2HC272J	X	2.7k	1/2W	M-Ox.	AA
R856	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA
R857	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA
R858	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA
R862	VRC-MA2HG152KY	X	1.5k	1/2W	Solid	AB
R863	VRC-MA2HG152KY	X	1.5k	1/2W	Solid	AB
R864	VRC-MA2HG152KY	X	1.5k	1/2W	Solid	AB
⚠ R867	VRS-SV2HC392J	X	3.9k	1/2W	M-Ox.	AA
⚠ R868	VRS-SV2HC682J	X	6.8k	1/2W	M-Ox.	AA
R869	VRD-RA2BE103JY	X	10k	1/8W	Carbon	AA
R870	VRD-RA2BE223JY	X	22k	1/8W	Carbon	AA
R871	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
R872	VRD-RA2EE680JY	X	68	1/4W	Carbon	AA
R873	VRD-RM2HD224JY	X	220k	1/2W	Carbon	AA
R874	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA

PWB-B: DUNTKA527WEE2
CRT UNIT

Ref. No.	Part No.	★	Description			Code
	RESISTORS					
	[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]					
R875	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA
R876	VRD-RM2HD104JY	X	100k	1/2W	Carbon	AA
R877	VRD-RA2BE103JY	X	10k	1/8W	Carbon	AA
⚠ R878	VRS-SV2HC120J	X	12	1/2W	M-Ox.	AA
R1511	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
⚠ R1513	VRS-VV3DB561J	X	560	2W	M-Ox.	AA
R1514	VRD-RA2BE100JY	X	10	1/8W	Carbon	AA
R1515	VRD-RA2BE820JY	X	82	1/8W	Carbon	AA
R1516	VRD-RA2BE820JY	X	82	1/8W	Carbon	AA
R1517	VRD-RA2BE122JY	X	1.2k	1/8W	Carbon	AA
R1518	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
R1519	VRD-RA2BE123JY	X	12k	1/8W	Carbon	AA
R1520	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
R1521	VRD-RA2BE122JY	X	1.2k	1/8W	Carbon	AA
R1525	VRD-RA2EE560JY	X	56	1/4W	Carbon	AA
R1526	VRD-RA2EE560JY	X	56	1/4W	Carbon	AA
R1527	VRD-RM2HD1R5JY	X	1.5	1/2W	Carbon	AA
R1528	VRD-RM2HD1R5JY	X	1.5	1/2W	Carbon	AA
⚠ R1529	VRS-VV3DB221J	X	220	2W	M-Ox.	AA
R1530	VRD-RA2BE122JY	X	1.2k	1/8W	Carbon	AA
	FERRITE BEAD					
FB1501	RBLN-0020CEZZ+	X	Ferrite Bead			AB
	MISCELLANEOUS PARTS					
⚠ P854	QPLGN0741CEZZ	X	plug (7 PINS)			AB
P860	QPLGN0841CEZZ	X	plug (8 PINS)			AB
P861	QPLGN0241CEZZ	X	plug (2 PINS)			AA
SC850	QSOCV0936CEZZ	X	Socket,12Pin			AG
RDA850	PRDAR0248PEFW	X	Heat Sink			AD
RDA1506	PRDAR5072CEFW	X	Heat Sink			AC
RDA1507	PRDAR5072CEFW	X	Heat Sink			AC

PWB-C: DUNTKB573WEV0
3-LINE Y/C UNIT

	INTEGRATED CIRCUITS					
IC1401	VHITC90A53F-1Y	X	C90A53			AS
	TRANSISTORS					
Q1401	VS2SD601AR/-1Y	X	2SD601AR			AA
Q1402	VS2SD601AR/-1Y	X	2SD601AR			AA
Q1403	VS2SB709AR/-1Y	X	2SB709AR			AA
Q1404	VS2SD601AR/-1Y	X	2SD601AR			AA
Q1406	VS2SB709AR/-1Y	X	2SB709AR			AA
Q1407	VS2SD601AR/-1Y	X	2SD601AR			AA
Q1408	VS2SB709AR/-1Y	X	2SB709AR			AA
	FILTERS					
L1401	VP-XF100K0000Y	X	Peaking,10mH			AA
L1402	VP-XF100K0000Y	X	Peaking,10mH			AA
L1406	VP-XF220K0000Y	X	Peaking,22mH			AA
L1407	VP-XF220K0000Y	X	Peaking,22mH			AA
L1408	VP-XF100K0000Y	X	Peaking,10mH			AA
L1410	VP-XF100K0000Y	X	Peaking,10mH			AA
L1414	VP-XF330K0000Y	X	Peaking,33µH			AA
L1417	VP-XF220K0000Y	X	Peaking,22mH			AA
	CAPACITORS					
	[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]					
C1412	VCEA0A1HW106M+	X	10	50V	EL.	AA
C1413	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1414	VCCCCY1HH3R0CY	X	3p	50V	Ceramic	AA
C1415	VCE9GA1CW106M+	X	10	16V	EL.	AB
C1416	VCEA0A1CW477M+	X	470	16V	EL.	AB
C1417	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1420	VCCCCY1HH270JY	X	27p	50V	Ceramic	AA
C1421	VCCCCY1HH120JY	X	12pF	50V	Ceramic	AA
C1422	VCCCCY1HH120JY	X	12pF	50V	Ceramic	AA
C1423	VCCCCY1HH3R0CY	X	3p	50V	Ceramic	AA
C1424	VCCCCY1HH270JY	X	27p	50V	Ceramic	AA
C1425	VCCCCY1HH100DY	X	10p	50V	Ceramic	AA
C1428	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1435	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1436	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1439	VCE9GA1CW106M+	X	10	16V	EL.	AB
C1440	VCEA0A1HW106M+	X	10	50V	EL.	AA
C1441	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1442	VCFYFA1HA474J+	X	0.47	50V	Mylar	AB
C1443	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1444	VCKYCY1HB472KY	X	100	35V	EL.	AA
C1445	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1446	VCCCCY1HH181JY	X	180p	50V	Ceramic	AA
C1447	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1448	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1449	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1451	VCEA0A1CW107M+	X	100	16V	EL.	AA
C1452	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1453	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1454	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1455	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1456	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1457	VCEA0A1HW106M+	X	10	50V	EL.	AA
C1458	VCEA0A1HW106M+	X	10	50V	EL.	AA
C1460	VCKYCY1HF103ZY	X	0.01uF	50V	Ceramic	AA
C1470	VCCCCY1HH270JY	X	27p	50V	Ceramic	AA
C1474	VCCCCY1HH150JY	X	15p	50V	Ceramic	AA
	RESISTORS					
	[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]					
R1402	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R1405	VRS-CY1JF361JY	X	360	1/16W	M-Ox.	AA
R1406	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1407	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1410	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R1411	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R1412	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1413	VRS-CY1JF122JY	X	1.2k	1/16W	M-Ox.	AA
R1414	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R1415	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
R1416	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1421	VRS-CY1JF471FY	X	470	1/16W	M-Ox.	AA
R1423	VRS-CY1JF152FY	X	1.5k	1/16W	M-Ox.	AA
R1426	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R1428	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R1429	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R1430	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R1431	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R1432	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1433	VRS-CY1JF122JY	X	1.2k	1/16W	M-Ox.	AA
R1434	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R1435	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1436	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R1438	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R1456	VRS-CY1JF564JY	X	560k	1/16W	M-Ox.	AA
R1457	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R1458	VRD-RA2BE103JY	X	10k	1/8W	Carbon	AA
R1459	VRS-CY1JF821JY	X	820	1/16W	M-Ox.	AA
R1466	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R1467	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R1473	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1475	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
	FERRITE BEAD					
FB1401	RBLN-0061TAZZY	X	Ferrite Bead			AA
	MISCELLANEOUS PARTS					
P1401	QPLGZ0810CEZZ	X	plug 32"			AD

PWB-H: DUNTKB569WEV0
DF MODULE UNIT

Ref. No.	Part No.	★	Description	Code
	INTEGRATED CIRCUITS			
IC1680	VHIKIA358P+-1	X	KIA358P	AC
	TRANSISTORS			
Q1680	VS2SC5022//1E	X	2SC5022	AG
Q1681	VS2SC3198-G-1+	X	2SC3198-G	AB
	DIODE			
D1610	RH-DX0202CEZZY	X	Diode	AC
D1681	RH-DX0475CEZZY	X	Diode	AA
D1682	RH-DX0475CEZZY	X	Diode	AA
D1683	RH-DX0475CEZZY	X	Diode	AA
D1684	RH-DX0475CEZZY	X	Diode	AA
D1686	RH-DX0487CEZZY	X	Diode	AC
D1687	RH-EX0618GEZZY	X	Zener Diode 6.2V	AB
D1688	VHD1SS119//-1Y	X	Diode	AA
	FILTERS AND COILS			
L1640	RCILZA022WJZZ	X	Coil	AG
L1641	RCILZA023WJZZ	X	COIL	AG
L1680	RCILZA034WJZZ	X	Coil	AE
L1681	VP-DF8R2K0000Y	X	Peaking,8.2mH	AA
	TRANSFORMERS			
T1680	RTRNZ0209PEZZ	X	Transformer	AK
	CAPACITORS			
	[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]			
C1610	VCFYSB2EB224K	X	0.22uF 250V M.Poly.	AB
C1644	VCFPFA2EB684J	X	0.68uF 250V EL.	AC
C1677	VCKYPA1HB391K+	X	390p 50V Ceramic	AA
C1678	VCKYPA1HB391K+	X	390p 50V Ceramic	AA
C1681	RC-KZ0024CEZZ	X	1000p 2kV M.Poly.	AC
C1682	RC-KZ0037CEZZ	X	390p 2kV M.Poly.	AB
C1683	VCE9GA1HW335M+	X	3.3 50V EL.	AB
C1684	VCEA0A1VW477M+	X	470 35V EL.	AC
C1685	VCFYFA1HA474J+	X	0.47 50V Mylar	AB
C1686	VCEA0A1VW108M+	X	1000 35V EL.	AC
C1687	VCEA0A1EW107M+	X	100 25V EL.	AB
C1695	VCFYFA1HA224J+	X	0.22 50V Mylar	AB
C1696	VCQYTA1HM103J+	X	0.01uF 50V Mylar	AA
	RESISTORS			
	[M-Ox.··· Metal Oxide, M-Film ··· Metal Film]			
R1610	VRS-VV3DB103J	X	10k 2W M-Ox.	AB
R1627	VRS-KT3LB122J	X	1.2k 3W M-Ox.	AD
R1656	VRD-RA2BE394JY	X	390k 1/8W Carbon	AA
R1657	VRD-RA2BE683JY	X	68k 1/8W Carbon	AA
R1658	VRD-RA2BE183JY	X	18k 1/8W Carbon	AA
R1659	VRD-RA2BE102JY	X	1k 1/8W Carbon	AA
R1680	VRS-KT3LB154J	X	150k 3W M-Ox.	AD
R1681	VRS-KT3LB104J	X	100k 3W M-Ox.	AD
R1682	VRC-MA2HG333KY	X	33k 1/2W Solid	AB
R1683	VRD-RA2BE332JY	X	3.3k 1/8W Carbon	AA
R1684	VRD-RA2BE681JY	X	1.5k 1/8W Carbon	AA
R1685	VRS-VV3AB181J	X	180 1W M-Ox.	AB
R1686	VRD-RA2BE103JY	X	10k 1/8W Carbon	AA
R1687	VRD-RA2BE103JY	X	10k 1/8W Carbon	AA
R1688	VRD-RA2BE473JY	X	47k 1/8W Carbon	AA
R1689	VRD-RA2BE823JY	X	82k 1/8W Carbon	AA
R1690	VRD-RA2BE822JY	X	8.2k 1/8W Carbon	AA
R1691	VRD-RA2BE823JY	X	82k 1/8W Carbon	AA
R1695	VRD-RA2BE224JY	X	220k 1/8W M-Ox.	AA
R1696	VRD-RA2BE684JY	X	680k 1/8W Carbon	AA
R1697	VRD-RA2EE1R0JY	X	1 1/4W Carbon	AA
R1698	VRD-RA2BE472JY	X	4.7k 1/8W Carbon	AA
R1699	VRD-RA2BE562JY	X	5.6k 1/8W Carbon	AA
	MISCELLANEOUS PARTS			
P1602	QPLGN0741CEZZ	X	plug (7 PINS)	AB
P1603	QPLGN0161FJZZ	X	plug 6Pin(K1-6)	AD
P1604	QPLGN0157FJZZ	X	plug 2Pin(XC)	AC
RDA1680	PRDAR0135PEFW	X	Heat Sink	AC
SG1681	QSPGH0025CEZZ	X	Spark Gap	AC

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
SP1	VSP1206PB648A	X	Speaker (L)	AK
SP2	VSP1206PB648A	X	Speaker (R)	AK
	QCNW-A689WJZZ	X	WIRE (SPEAKER)	AE
	QCNW-B177WJZZ	X	WIRE (XA)	AD
	QCNW-B178WJZZ	X	WIRE (XB)	AG
	QCNW-B179WJZZ	X	WIRE (XC)	AE
	QCNW-B294WJZZ	X	WIRE (CJ)	AE
	QCNW-B295WJZZ	X	WIRE (N)	AE

SUPPLIED ACCESSORIES

Ref. No.	Part No.	★	Description	Code
	RRMCGA035WJSB	X	Infrared R-C Unit	AT
	TINS-A418WJZZ	X	OPERATION MANUAL	AF
	TCAUH3048GJZZ	X	CAUTION LABEL	AB

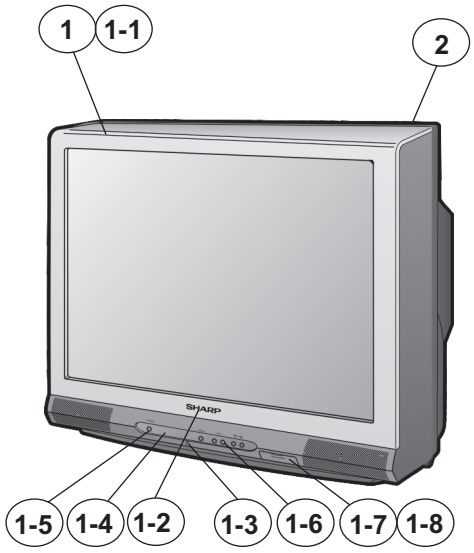
PACKING PARTS
(NOT REPLACEMENT ITEM)

Ref. No.	Part No.	★	Description	Code
	SPAKCB554WJZZ	X	PACKING CASE	BC
	SPAKP0110GJZZ	X	LAMIFOAM	AF
	SPAKXA004WJZZ	X	PACKING FOAM	AS
	SSAKA0101GJZZ	X	PLASTIC BAG	AB

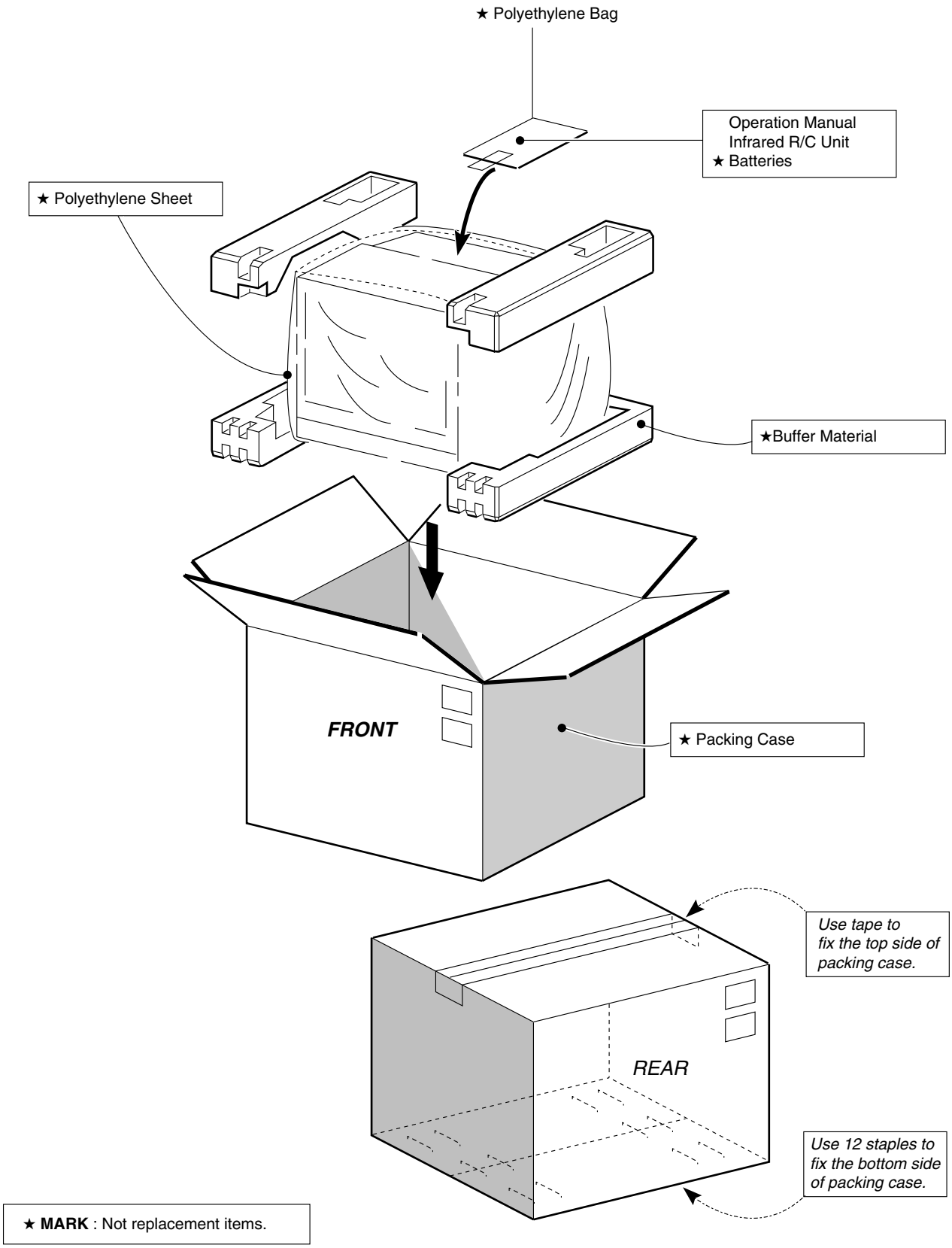
CABINET PARTS

Ref. No.	Part No.	★	Description	Code
1	CCABAA003WEH7	X	FrontCabinet assy	BQ
1-1	Not Available	—	FrontCabinet	—
1-2	HBDGB3141CESA	X	SHARP Badge	AF
1-3	HDECQA010WJSA	X	RC Cover	AE
1-4	HDECQ0104GJKA	X	Speaker Decoretion	AH
1-5	JBTN-A004WJKA	X	Button (Power)	AK
1-6	JBTN-A005WJKA	X	Button(Vol-up/down, CH-up/down)	AK
1-7	HINDPA433WJSA	X	Indication Plate	AB
1-8	GDORFA001WJKD	X	Door	AF
2	GCABBA002WJKB	X	Rear Cabinet	BH

CABINET PARTS LOCATION



PACKING OF THE SET



★ **MARK** : Not replacement items.

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